ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF
THE ILLINOIS STATE MEDICAL SOCIETY

ENTERED IN THE SPRINGFIELD POSTOFFICE AS SECOND-CLASS MATTER.

VOL. X SPRINGFIELD, ILL., December, 1906 No. 6

ORIGINAL ARTICLES

FUTURE PROGRESS IN SURGERY.*

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CHICAGO.

Wherein, whereby and by whom shall this progress come? Time was, and not so long ago, when the surgeon was not unlike the ancient navigator, who had undiscovered oceans and continents in prospect to inspire his ambition and to stimulate his efforts for discovery. But now there remains as little in the surgical world in the way of unexplored organs and regions as there is for the circumnavigator of the physical world in the way of new seas, islands and continents. Every organ of the human body has been mapped, charted and explored; every organ and structure, every nook and corner have been invaded and subjected to surgical procedure, and every organ not essential to life has been completely extirpated when diseased conditions demanded it. Thus, the limits of the field, considered as a whole, have been reached. It hardly needs to be said that this kind of progress and this degree of progress have been made possible by the discovery of surgical anesthesia and the knowledge of the rôle of bacteria. Could our predecessors have foreseen this estate into which we have come, they would have thought of surgical perfection. But, with our vantage ground, our increased knowledge and our superior resources, we recognize more unsolved problems pertaining to surgery than the fathers ever dreamed of. As in any department of science, each step in advance, every problem solved, brings us face to face with an ever-increasing number of new, though often minuter, problems calling for solution, just as the arterial trunk divides and subdivides and its branches ramify more and more the farther we trace it. Hence it is that, although in many things of the surgery of to-day, we ourselves are disposed to think of having attained perfection, it is not permissible to conceive of finality in anything pertaining to the art and science of surgery, any more than in any other department of medicine or in any matters scientific.

* Address on Surgery, delivered before the Surgical Section of the Illinois Medical Society at Springfield, May 15, 1906.

In his every-day work, the surgeon sees the problems pressing for solution, the many shortcomings which beset his art and the many obstacles to progress which must be overcome. Some of these relate to present methods of operating, the faults of which the future will disclose. Some relate to his armamentarium, with its ever-present tendency to become complex and cumbersome. Some affect the question of the extent and frequency of operative measures required, which will wax or wane with the growth of knowledge. Others again pertain to the theories of the origin and life history of many surgical affections and to the great underlying principles. Still others hinge about micro-organisms, infections and artificial immunity. It would be hazardous to attempt to prophesy along what lines epoch-making discoveries in surgery will soonest come, or where the next surgical revolution will strike. We may, at least, hope it will be in the domain of the malignant diseases, for it is here that the greatest exigency lies. Discoveries in this field, corresponding in scope and significance to those of Pasteur and Lister and their co-workers and successors relating to surgical infections, would, indeed, bring a revolution, one which all humanity awaits, for which surgeons have longed and thousands have wrought. Only by comparing the theories and management of inflammation, which prevailed less than a generation ago, with those of the present time can we form an adequate conception of where we are to-day, in our theories and management of carcinoma and sarcoma, compared with the high plane we would occupy should there come a revolutionizing discovery in this field, comparable to that which ushered in the antiseptic era. From the very nature of the subject, there may never be a discovery of such revolutionizing proportions. But such a possibility is ever before us in imagination with a hope of realization. In the meantime, we must rely for progress on such gradual accumulations of knowledge and piecemeal discoveries and improvement of method as shall come day by day and year by year. In this way, there have come that steady improvement and that marked progress in the operative treatment, especially of visceral carcinoma, in the last ten years, even in the last five years, which, it is certain, the mass of the medical profession does not yet apprehend. Consequently, while our present views concerning the nature of carcinoma, its causes and the methods of its dissemination prevail, we may only look for further advancement by means of earlier diagnosis, earlier operation and more complete extirpation. This is based on the almost universally accepted opinion that the disease is primarily of strictly local origin. The evidence in favor of this view would seem to be unimpeachable.

The next most urgent demand for surgical progress lies in the field covered by the various types of bacterial invasion. For, notwithstanding the immense strides that have been made in the prevention and treatment of all the infective processes and their complications since the advent of the antiseptic regime, and notwithstanding the fact that herein surgery has made more actual progress in the last three decades than in all previous history, it yet remains true that there is more sacrifice of life and limb and organs from bacterial infection than from all other sources com-

bined, of those which come within the sphere of surgery. It is possible that, some time in the future, there shall be found a way to control or to eradicate a focus of tuberculous infection of tissues or joints or organs, or a similarly situated focus of any one or of all the many kinds of infection which give rise to suppuration, septicemia, pyemia and necrosis, without resort to operative surgery. Up to the present time, but little verifiable progress has been made in this direction. But there is ground for hope that, in the not distant future, at least some of those infections, which are now beyond the reach of surgery, either because there is, from the first, no accessible focus, or because of neglected opportunity when there is such a focus, may be controlled by antitoxin serums which shall here be as reliable and efficient as that with which diphtheria is now treated. The results of the work that has been done in the way of inducing artificial immunity, though somewhat disappointing, are yet full of promise. As the present method of treating diphtheria has so nearly abolished the necessity of operations for laryngeal obstruction in this disease, so likewise it seems not improbable that similar methods, applied to other infections, may still further reduce the necessity for surgical operations in certain cases. But this would mean surgical progress, nevertheless. So, until the day arrives when artificial immunity against these infections can be established, improvement in this field, as in that of the malignant diseases, must come from the earlier recognition of the focus of infection, earlier resort to surgical measures and more perfect technic.

Whereby and by whom shall the desired progress be brought about? What are the factors, by what means and through what channels? Increase of knowledge is the great desideratum. When surgery consisted largely in dealing with fractures, dislocations, and wounds of the external parts of the body, a knowledge of gross anatomy was the surgeon's chief mental equipment. But, as the centuries came and went, he found that, would he understand the healing of wounds and the repair of lesions, he must know physiology. Would he distinguish between the normal and the morbid in anatomy and physiology, he must master pathology. Would he know the meaning of infection and how to prevent and control it, he must acquire the principles of bacteriology. Would he be equipped to appreciate the correlations and the ramifications of all these branches and sources of knowledge in the fullest degree in their bearing on his science and art, he must apprehend much of modern chemistry, with its correlated branches, physiological chemistry and physical chemistry. And, finally, would he sit in judgment on the therapeutist, as he is wont to do, he must know full well the resources and limitations of therapeutics.

Thus has surgery developed, from what was originally little more than mere handicraft, into the commanding position it holds to-day. Perhaps, to a greater extent than the department of internal medicine, does it lay hold on all the tributary sciences and command the aids of experimental and laboratory research; and nowhere are the requirements for accurate and complete diagnosis so imperative as in the realm of operative surgery. Nearly forty years ago Billroth said: "Surgery owes its great revolution in the nineteenth century to its attempt to unite all medical

knowledge in itself; the surgeon who succeeds in this and also masters the entire mechanical side of his art may feel that he has attained the highest ideal in medicine." From this high plane, there will be no retrograde movement. On the contrary, surgery will continue to appeal to the laboratories of anatomy, physiology, biology, pathology, chemistry and physics for light on dark problems, for discoveries and contributions to knowledge, which it can utilize for more perfect work. It will also continue to seek and adopt, from the general practitioner and the specialist in internal medicine, such contributions to knowledge as will aid the surgical side of medicine in the way of better diagnosis, prognosis and treatment. In this manner does surgery "attempt to unite all medical knowledge in itself" of whatever kind and from whatever source.

The surgeon's own contributions to the advancement of surgery are of various kinds and are brought about in various ways. The peculiar laboratory of the surgeon is the operating room. Here are his special opportunities for enlarging the boundaries of knowledge. Here he sees the direct connection between symptomatology and diseased organs and diseased processes. He learns lessons in morbid anatomy and morbid physiology which can be learned in no other way. He acquires familiarity with the differential characteristics of gross living pathology, which become available to him for immediate and future use. He has, thus, an advantage over all others, by as much as such knowledge of diseased processes in the living body is superior to that obtained from postmortem examination and museum specimens. This has been emphasized in recent literature, notably by W. J. Mayo. From the nature of things, the practicing surgeon can not engage extensively in laboratory research. But he can furnish the problems for the laboratory worker and it is his to test the results and to pass final judgment on the practical value of the laboratory findings. He may direct experimental work of many kinds which will yield fruitful results. He may be a pathfinder in an unknown field or he may help to straighten and broaden the path into a highway and thus contribute more but get less renown. Not all can be pathfinders, nor should all be; else there would be no thoroughfare. The mountains and the wilderness are full of abandoned first surveys and first trails of the original engineer. A score of other engineers take years to correct and supplement the work of the first or to find a more practical way. There is, however, no necessary reflection on the work of the first; for, if there were no first, there would be no second. So it has been with the barriers to surgical progress hitherto, and so it will be in the future. Original discoveries often prove defective or even useless in themselves, but they yet serve a useful purpose by stimulating other efforts in the same direction. Moreover, they furnish the material and the opportunity for the less conspicuous worker, who makes his contribution by correcting, modifying and supplementing the original. In this way progress is made. Improvement on accepted methods and in accepted doctrine, as in any other department of knowledge and activity, is frequently in the direction of simplicity or a reversion to the ways of the fathers. A conspicuous example is the substitution of the Esmarch constrictor, a plain rubber

band, which leaves nothing to be desired in simplicity and efficiency, for the more complicated and inefficient machinery which preceded it. Another is the present method of reducing dislocations by simple manipulation. In intestinal surgery, the amount of ingenuity that has been expended on mechanical devices for anastomosis has been enormous. Some of these devices were of value in a transition stage, but now they are all but abandoned by surgeons. The number and kinds of intestinal sutures that have been proposed and advocated are too many to be remembered and some of them too complicated for the average understanding. After all this, almost all surgeons have gone back to the simple thread of the ancients and to the simple overwhip stitch of the housewife. In the operative treatment of aneurism, we have had tyings proximal and tyings distal, with varying modifications here and there. But in the last few years we have gone back fifteen hundred years to the method of Antylus, the original operation for aneurism, a simple, rational and efficient method, viz., that of dissecting out the sac and tying both ends of the artery at the sac, when the anatomic conditions will admit of it. Still more recently, Matas has further simplified the operation in certain cases by cutting off the aneurismal sac and sewing up the opening of the artery. Another kind of progress that is in store for surgery is illustrated in the treatment of prostatic hypertrophy. Prostatectomy, hitherto approached with a halting and uncertain attitude, has bounded suddenly, in the last few years, into a position of great prominence, and this without any new light from anatomy, physiology or pathology.

Another desideratum is that the actual practice of surgery shall keep pace with the advance in knowledge and the improvement in method. This would be ideal surgery, indeed. Ideals may be approached, if never reached. That the ideal and the practical are many times far apart may, therefore, be taken for granted. Until all conditions and circumstances surrounding the patient, requiring surgical judgment, shall be under the control of the ideal surgeon, the chasm which separates will remain. But this ideal control is unattainable and the ideal surgeon does not exist. The expert surgeon, however wide his experience, however great his natural endowment and however complete his equipment, has his limitations. He has the frailties that are common to humanity. Sometimes ambition or a thirst for fame rules him. Sometimes the commercial spirit sways his judgment. Sometimes pride of opinion or an overfondness for methods of his own devising and doctrines of his own conception causes him to fall short. Sometimes a prejudice against a rival prevents the open-minded attitude, and so on. Thus is he hindered in his approach to the ideal and fails to bridge the chasm which separates what he might do from that which he actually does. Beside these factors and considerations pertaining to himself, the surgeon is hindered in his desire and his endeavor to approach the ideal by conditions relating to the patient. The control of this factor lies with the specialist in internal medicine, the general practitioner and the public, or the patient himself as a part thereof. The specialist in medicine, though he may not confess it, sometimes retains a lingering remnant of the centuries-old prejudice against

surgery and an unconscious tingle of jealousy of a rival. Or, however expert he may be as a diagnostician, he may fail to recognize that his special field may not yet have "united all medical knowledge to itself." Or he may now and then fail to acknowledge the limitations of therapeutics or the possibilities of surgery at the right moment, and, as a result of any one or of all of these, the surgical judgment, whether rendered by himself or the surgeon, does not always come at the most opportune time for the best surgery. This refers particularly to those affections which surgery has in recent times taken out of the borderland between medicine and surgery. It must be recognized here that there is no sharp line of demarcation between the two and that there never can be. At best, it is a shifting line and it can not be gainsaid that the surgeon is disposed to push it farther afield when opportunity offers.

As for the general practitioner who sees the beginnings of disease and in whose keeping the patient's welfare so largely rests, what shall be said of him or to him? Has he not been lectured in season and out of season? Has he not been told about his supposed shortcomings in early diagnosis, his overweening confidence in drugs, over and over again; or of his hesitancy in calling early surgical advice, his want of alacrity in turning his patient over to the surgical expert? Yes, all of this and much more. Whatever else may be said and whatever his faults in this regard may be, it can be justly claimed, in extenuation, that if the expert surgeon and the expert diagnostician, with all their experience and their opportunities, often fail to give the patient the best chance for life and health through the resources of surgery, the general practitioner may be allowed to fall short, proportionally, without undue criticism. Ideal surgery requires of the general practitioner, not that he himself shall undertake to do operations for which he may not be qualified and for which he may not have had the requisite experience and for which he has not adequate facilities; nor that he fly to the specialist with every case requiring operation. The question of who shall operate in a given case is a negligible one for present purposes. But it does require of him that he shall keep fairly abreast with the status of surgical knowledge bearing on diagnosis and the resources and possibilities of operative surgery. It also requires that he shall have the qualifications, either to pass an up-to-date surgical judgment, when occasion calls for it, or that he shall recognize his inability to do so and seek help. It demands that he shall know the fact and make it a part of himself, that there is, at present, only one rational way to treat carcinoma, namely, by complete extirpation, and that the earlier the disease is recognized and the more thoroughly it is extirpated, the greater the number of complete cures; and, above all, that the responsibility for an early diagnosis rests on him more than on any other. Much of the same may be said of all acute infections. He should be thoroughly imbued with the fact that there is no drug treatment that will in any degree arrest these affections, that early relief of tension and evacuation of pus is the only way to prevent local and general disaster, whether the infection be of the finger, of the pleural cavity, of the brain or within the abdomen or pelvis. He must know, always and everywhere, that it is

the last-resort operation, those that are done because everything else has failed, that bring opprobrium on surgery, disrepute to the surgeon and prejudice to the minds of the public against all surgery. It rests with the general practitioner, also, to educate the laity as to the general safety of properly planned and properly executed surgical operations and that there are many conditions which neither time nor drugs nor applications nor manipulations of any sort will either palliate or cure.

Specialism is chargeable with much that hinders surgical progress, especially as it affects the general practitioner and the laity.

Specialism is in a degree inevitable, necessary and wholesome in practice, in teaching, in literature and in medical societies. But, in all these directions, it has become exuberant and top-heavy. It has much to its credit in the medical world, but it has also a debit column, in which there are many items. The one of these debit items that is most appropriate for consideration here, as an example, pertains to specialism in medical societies. The excessive tendency of the specialties to seclusion and to build Chinese walls, each around itself, is illustrated by many of the so-called national organizations. While purporting to be national in scope, many of them grew out of sectional questions and are maintained on a sectional basis. Some of them consist of a handful of men, taken from a few of the larger cities. Some of them are so small that it is difficult to get a quorum for their annual gatherings. The same tendency exists in the larger cities. In Chicago, for example, there is the Surgical Society which represents, in theory, at least, the whole surgical field without any limitation. Then there are several other organizations which, on paper, at least, represent segmentations of surgery more or less minute. There is a legitimate place for a few national societies of specialists, organized on broad lines and conducted for the betterment of the principles and practice of the fields which they severally represent. The same can be said of the situation in the larger cities. But when we go beyond this the good and legitimate purposes for which special societies are supposed to exist come to naught. Every one who has watched the growth and perfection of development of the section work of the American Medical Association can not but feel a pride in the splendid manner in which the various sections have come to represent all departments, divisions and subdivisions of American medicine, the work and the workers of every specialty. This is specialty organization of the highest type and of the most beneficial kind. Every department of the whole medical field is uplifted and the mutual influence and correlation of each department on the others, and of each on the whole, are emphasized and receive their highest degree of expression.

This is the proper place and the occasion is opportune for saying a word about our State Medical Society and its work. Many of us are convinced from observation and experience that it is a mistake to try to conduct our scientific work along special lines and to hold section meetings apart, sitting at the same time. Let there be sections, section officers and section addresses if you will, meeting in rotation, but of one thing I am convinced, namely, that the present plan of segregation is

detrimental and that we should go back to the old three-day session in which every member can hear every paper and every discussion, if he so desires. As it is to-day, we have two sections, one made up of those who operate and the other of those who do not, and neither can hear or take part in the work of the other. Let us abolish the whole separate specialty idea from this society and have a grand democratic three days' mix up of all sorts and conditions of medical men. There are already opportunities in plenty for meetings of specialists for all legitimate and profitable purposes without using the State Medical Society. This plan will make for progress in surgery with all its specialities, for progress in medicine in all of its departments.

PROBLEMS IN APPENDICITIS.*

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ROBINSON.

In coming before this Section with a paper on what most of you probably consider a hackneyed subject, one should be expected to have something novel to offer, perhaps a more certain method of diagnosis, perhaps a treatment without mortality. To at once satisfy any curiosity you might exhibit, the writer must admit, without delay, that he has reached neither of these most commendable, though high, ideals, but simply wishes to relate some of the appendicitis problems encountered in his six years of general practice, to contribute the widow's mite, as it were, to the generous collection of statistics and deductions therefrom, with which we are already nearly overwhelmed. Indeed, this subject has been so thoroughly discussed and written upon that at first thought one would say there is nothing more to add, that the last word has been spoken; and yet, when we come in actual bedside contact with any one of the many types of this protean affection, can we at once determine on the safest plan of treatment for that individual case? The answer is so plain that "he who runs may read."

In the language of a recent writer, "the vermiform appendix has been cut-off, tucked in, and turned inside out; the patients have been purged, narcotized, packed in ice or baked in poultices; they have been starved, or instructed to walk on all-fours like quadrupeds; leucocytes have been gazed on through the barrel of the microscope, and the urine examined for indican, acetone, or albumin; and yet, with all this study, all of the examinations, a fatal appendicitis, caused by a little non-functioning organ, has doomed many otherwise healthy individuals to an early and untimely end."

It is plain that the reason for this unsettled condition of affairs lies in the fact that we can not make a satisfactory diagnosis of the actual pathologic conditions present in and around the appendix. That the symptoms and physical signs bear no certain relation to the pathologic

* Address on Surgery, delivered before the Surgical Section of the Illinois Medical Society at Springfield, May 15, 1906.

changes we must all admit—most of us having unwittingly added to those "silent cities of the dead" through placing implicit trust in pulse, temperature, pain, tenderness or muscular rigidity, taken either singly or altogether. How, then, shall we remedy this unseemly condition, to the satisfaction of ourselves, and to the increased longevity of those patients with rebellious appendices?

I believe but one answer to this question can come to the mind of the conscientious practitioner, and that is to educate our people to the broad, general understanding, that every inflammatory condition of the appendix is a surgical one from alpha to omega, and should be treated surgically, not as a last resort, but as the routine measure of choice. Let us get their clock-work of surgical consent so set that when the now frightful diagnosis of appendicitis falls on their ears the pendulum of that household will begin to swing methodically, to arrange the operating room and to kindle the fires of sterilization.

When this is accomplished, the term appendicitis will be robbed of its frightfulness and the disease of its mortality. Then our theory and our practice will coincide, while now they do not. Personally, I have for several years believed that in a large series of cases there would be almost no mortality if all were operated on, without delay. And yet I have operated in only about one-half my cases, because of some prejudice of patient or family; or because of the ever-present voice of procrastination whispering in my ear that a great many cases recover, at least for the time, without operation, and why should not this be one of them? The patient is apparently doing well, let us wait and see. And I can say, to my regret, that I have waited, and I have seen. That I have seen my patient, to all intents, recovering from his local peritonitis, which is his safeguard, when the family and friends were congratulating themselves on their foresight and good judgment in objecting to an operation, and laughing in their sleeves at the doctor "who wants to operate for everything," when I was saying to myself in capital letters "another case of appendicitis cured without the knife," I say that I have seen this patient cry out with a sudden renewal of his pain, his whole abdomen become rigid, his face drawn and cyanotic, and studded with beads of perspiration which stood out like question-marks of my treatment, his pulse at once thready, and soon imperceptible, and I have seen him relieved by death in twenty-four or thirty-six hours.

To my mind, the timid man who is afraid to venture within the peritoneum, who has the erroneous idea that legitimate surgical procedures kill patients, is a victim of radical conservatism; while he who knows how safely these same paths may be trodden, when guided by the head of judgment and the hand of care; and who knows that the finer points of diagnosis can not be attained through a board-like rigidity; he is the disciple of conservative radicalism, which should be the doctrine of the isolated surgical practitioner.

The writer has been much interested in the article on appendicitis in a recent edition of an English Text-Book on Surgery, by Rose and Carless, who, in common with the mass of English writers, take a very

conservative view of the treatment of these conditions—"not operating in the catarrhal cases, delaying operation for two days in the severe inflammatory ones, and advising operation after a second attack in the recurring or relapsing cases." And then they very calmly proceed to set at naught the foregoing by declaring that "the prognosis is never certain, that the initial symptoms are frequently alike in all varieties, and hence one can never know what course the case is going to take." They then quote Robert T. Morris as saying "the infected appendix is a cap which sometimes snaps, sometimes flashes, and sometimes causes an explosion; and none of us can tell in advance just what is going to happen"—a metaphor to which I can most heartily subscribe.

There are many practical problems to be encountered in appendicitis, although the equations formulated are often paradoxes. Many of these equations can not be solved because of the presence of three "unknown quantities," viz.: (1) The vitality of the patient; (2) the virulence of the invading organisms; and (3) the tissue-resistance of the appendix itself. Eliminate this third unknown quantity, not by computation, but by amputation, and, barring mistakes in technic, the problem is solved.

As a means of illustration, I wish to briefly narrate a few parallel cases as types of those seen by most of us in a general practice:

Case 1.—Ethel H. I was called 4 miles in the country on the night of December 19 to see a little girl 10 years of age, who had come home from school the afternoon before, complaining of pain in her side. The parents had not considered her very sick until this evening, when the pain had become very severe. I found her with a temperature of 102° F., pulse of 100, the pain radiating from the right side, tenderness over the region of the appendix and marked muscular rigidity. She lay in bed with the right leg flexed at hip and knee, and altogether made a typical picture of a fairly severe case of appendicitis. I explained to the father that an operation might be necessary, quieted the patient with morphin hypodermatically, and arranged to see her in the morning. When I returned that Sunday morning I was startled at the change which had taken place in this girl. She had not rested much during the night, her temperature had dropped to near normal, pulse was 120, the whole abdomen was becoming rigid and tender, though the pain had about ceased. Her bowels were tympanitic, breathing rapid and shallow and facies bad. It was plain that she was developing a general peritonitis. This child had now been sick thirty-six hours, and it seemed to me that she was going to die whether operated on or not. I saw her again a few hours later, with consultation, and we decided nothing could be gained by operation. The downward course in this case was very rapid, as death occurred the next afternoon, within seventy-two hours from the time she came home from school "with a pain in her stomach," and within forty hours from the time of my first visit. There was no history of a previous attack, nor of any severe sickness. An autopsy was not allowed, but from a careful study of the case, and especially considering the cessation of pain at the time the peritonitis began to be general, I believe this to have been a case of gangrenous appendicitis, in which appendectomy within the first

twenty-four hours would have saved the patient's life. I believe I am justified in holding this opinion from the findings and result in Case No. 2 which I am about to relate.

CASE 2.—G. B. This was a case seen by Dr. T. N. Rafferty and myself, in consultation with Drs. R. L. Gordon and G. W. Fuller of Palestine, May 7, 1904. This man was 24 years of age, and had been sick thirty hours. His temperature was 99 3/5° F., pulse 86, and the pain, which had been severe during the night, had about ceased.

He was sitting propped up in a chair, with the right leg extremely flexed. There was marked tenderness over the right iliac fossa, with rigidity of muscles. We hesitated about operating on a man with practically a normal temperature and pulse and no pain; and yet we finally decided to operate, being influenced in this decision by the bad facial expression and the sudden cessation of pain. The appendix was quickly removed, and found to be gangrenous at the distal end, with that thickening and softening of the entire organ which precedes total gangrene. The peritoneal covering of the bowel was violently inflamed for a distance of six or eight inches, and on this account we were doubtful of the outcome. However, the patient's convalescence was without incident, save for a difficulty in getting the first bowel movement (a temporary paresis), and he is now in good health.

CASE 3.—Ethel H., 8 years of age. The father came to our office on the afternoon of July 1, 1904, saying that the little girl had been crying all day with a pain in her bowels, and that I should either send her medicine or go and see her. I told him it would be best to see her, and went at once. This was a case in which the diagnosis could almost be made from a glance at the little patient, as she lay in bed, with both legs drawn up, her respirations short and rapid, the whining cry of pain, the characteristic Hippocratic countenance and the perfect consciousness. Upon examination her temperature was 101° F., pulse 132, the whole abdomen tender and showing muscular rigidity. She placed her finger just over McBurney's point to indicate where the pain began and where the greatest tenderness was. She had accompanied her mother to town on the afternoon before, and had complained of feeling badly during the trip home. There was a history of an attack of fever and pain in the abdomen two years before, at which time no diagnosis was made, the patient recovering in two or three days. Since that time she had been apparently well, except occasionally had complained of pain in her abdomen. Drs. T. N. Rafferty and A. G. Meserve, both of Robinson, consulted with me in this case, and we decided that her chance of recovery, though slender, would be better if treated expectantly. I saw her twice the next day, and was with her on the day following, when she died at 10 a. m. The course of this case was somewhat more rapid than Case No. 1, as the patient lived only sixty hours from the onset of the attack, and forty hours from the time of my first visit. Again, an autopsy was not obtained, but I believe this little girl had a mild attack of appendicitis two years before, which was followed by a latent inflammatory condition, with the occasional attacks of pain, and that at the begin-

ning of this attack there was a perforation of the appendix, with the escape of pus, at least enough in quantity and of sufficient virulence in quality, to excite the most rapid and hopeless general peritonitis I trust it will ever be my lot to see. Might there not have been a different ending to this case if the appendix had been removed after this first attack, granting that a diagnosis was possible at that time?

Just here I want to say, concerning these cases of diffuse septic peritonitis, that the technic developed by J. B. Murphy, with Fowler's position in bed, large quantities of water per rectum, etc., probably offers the patient most in the way of treatment, and I am anxious to know what has been the more recent experience of those best qualified to observe.

Case 4.—G. P., 24 years of age, occurring in the practice of Dr. L. R. Illyes of Heathsville, Ill., was seen by Dr. T. N. Rafferty and myself on the fifth day of the attack. He showed pronounced septic symptoms, with irregular fever, vomiting, etc. There was some swelling in the right iliac fossa, though not as much as two days before, and no fluctuation or edema of the skin. Dr. Illyes thought him better in most respects, but the persistent vomiting led us to decide to operate. The incision was made below and to the outer side of McBurney's point, and a large abscess found behind the cecum. The appendix had sloughed, leaving a perforation which admitted the tip of the index finger. This patient was in good condition in three weeks, with the exception of the fecal fistula, which closed spontaneously in nine weeks. He proved to be one of Nature's unfortunates, however, as he died from an attack of ptomain poisoning within a year.

Case 5.—C. G., aged 26 years, came to our office on the morning of Jan. 29, 1906, complaining of pain in the abdomen. On examination, this was found to radiate from the right iliac fossa, where there was some tenderness and very slight rigidity. He gave a history of two previous attacks, the last four years ago, at which time there was a discharge of pus through the bowel, and he was told by his attending physician that the appendix had sloughed away, and that he would never have any more trouble of that nature. He was advised to go to bed and to abstain from all food. I was called to see him that evening and found he had carried out instructions, but was having severe pain, with the tenderness and rigidity more marked. This patient had survived the previous attacks without an operation, and naturally thought he would this time. I did not urge operative interference, as I knew there would be extensive adhesions from the former attacks, and thought it would be safer to separate them in an interval. He had severe local peritonitis, with no perceptible tumor mass, and, on the fifth day, passed a small amount of pus per rectum. His general condition was much improved on the next day, temperature normal, pulse 84, no pain, very little tenderness or rigidity.

An incision and drainage on this day would have been a life-saving measure, but again the voice of radical conservatism whispered in our ear, and again we waited. I saw him at 10 the next morning, the seventh day of the attack, and did not arrange to return, as he was hungry and

apparently in the best of condition. Two hours later I was hurriedly summoned and found him in extreme pain, his abdomen totally rigid, breathing labored, face cyanotic and pulse thready and difficult to count. He had got up on a vessel at the bedside, and felt something tear loose, as he had described it. This patient never reacted from the shock of this rupture of adhesions, but his pulse soon became imperceptible, and he died twenty-seven hours after his peritoneum was bathed in pus—pus which, no doubt, could have easily been drained through an external incision prior to the rupture.

Case 6.—M. W., a young man of 30 years, was first seen on Aug. 10, 1905, when the following history was obtained: He had never had any severe illness prior to this, which began five days before, with vomiting, pain and tenderness over the right side of the bowels. This man had a temperature of 101° F., pulse 90, no chills or sweating, and very little nausea. There was a sausage-shaped tumor extending obliquely through the right side of the lower abdomen, smooth, hard and dull on percussion. On the following morning, under ether anesthesia, a free incision was made, and about one pint of foul pus evacuated. On account of the short duration of the attack, it was feared that the adhesions were very tender, so that no searching of the cavity was attempted. At the second dressing the gangrenous appendix came away, and the patient's convalescence was without incident until the end of the fourth week, when there was a small sinus remaining. On removing the dressing one morning I found a good-sized calculus presenting in the mouth of the sinus, which quickly healed after this was removed. It seems probable that this concretion had been forming for several years, without causing symptoms, but had finally reached a size sufficient to cause a perforation of the appendix near its base, with consequent sloughing and abscess formation. The tumor was marked in this case, while in Case No. 5 (unoperated, and ending fatally after intraperitoneal rupture of the abscess) there was no perceptible tumor. This latter fact emphasizes the point that physical signs, as well as symptoms, can not be relied on.

To recapitulate, I have given you the histories of six cases as types of those commonly encountered, so arranged in pairs as to emphasize the difference in results in similar cases, when treated expectantly, and when treated surgically. In other words, I have attempted to point out how much safer, for both patient and practitioner, is the doctrine of conservative radicalism over that of radical conservatism.

As to the actual and practical solution of all these problems, I am afraid that is a will-o'-the-wisp with which we will never come up; that when the touch of the physician shall have universally become the "tactus eruditis;" when the closed abdomen shall have become as an open book; when medicine has truly become a science, and that much-talked-of but never-to-be-expected medical millenium has arrived, then, and not till then, will the subject of appendicitis cease to be of interest to our most progressive of professions.

DISCUSSION.

Dr. Charles J. Drueck, of Chicago:—I want to report a case that is in line with the subject. Last November I saw a case of appendicitis, in which we had to deal with a localized abscess. The patient was quite septic. I operated immediately. The patient apparently recovered from the operation; the temperature went down to normal; patient went home, but did not quite regain his physical health, and very soon thereafter came down with an empyema-pyothorax. This was drained and healed up, along about last February or March. About six weeks ago he developed an abscess of the liver, from which he died. Whether this was a case of appendicitis, with a general septicemia of some slow type or not, or whether it was a coincidence of three different infections, I know not. I simply mention it as having been a very interesting case to me.

Dr. John E. Allaben, of Rockford:—I was very much interested in the paper just read. The subject is one in which we are all interested, as those of us who have had experience in this line know the great difficulty we sometimes meet in these cases. I think the profession generally are quit harmonious with regard to the question of operation, after the diagnosis has been made. The greatest difficulty undoubtedly is the matter of diagnosis. I do not believe that any surgeons, and but few general practitioners, have the hardihood to take the attitude of not recommending operation early, in a case where there is no question as to the diagnosis. But there are many cases that are obscure, as the essayist has pointed out, and one class of cases in which this obscurity exists is that of children. I had an interesting experience of this kind about a year and a half ago. I was called to see a child, two years of age, that presented symptoms much like those of grippe. The family lived in the country about six miles from my home. I saw that child for three or four days without making a diagnosis, and I was looking for appendicitis, too. But it is sometimes difficult to make a diagnosis of appendicitis in children. A child may complain of a little uneasiness; it is fretful; it may have a slight rise of temperature, and if you examine the abdomen you may find tenderness in almost any part. If you touch a child in the abdomen, it will almost always cry. After seeing the child for three or four days, and the symptoms not improving, I made up my mind that the case was one of appendicitis. I gave an anesthetic, and immediately the diagnosis was clear. There was no trouble in feeling a tumor in the right iliac fossa. The diagnosis was that of a large appendicular abscess. The child was taken to the hospital, the abscess was drained, evacuated, but no attempt was made to remove the appendix. The child made a good recovery.

In the same family, the mother had an attack a year and a half later, which I diagnosed as appendicitis, and recommended immediate operation. She was taken with vomiting, pain and tenderness over the appendix with rigid abdominal muscles, so that there was no question in my mind as to the diagnosis, but I could not obtain her consent to operate. She finally recovered from this attack, was about the house doing her work, when nine days afterwards, I was summoned to the house quickly and found her a very sick woman. She had excruciating pain in the region of the appendix and a tumor as large as a fist in the right iliac fossa. As I could not remove her to the hospital on account of her condition, I operated at the house. When the abdomen was opened, I found that the intestines had formed adhesions in such a way as to confine the pus to the appendicular region, and by using gauze packing, I prevented the pus from getting into the abdomen. When I opened the abscess there was a gush of foul-smelling pus which floated out a portion of the gangrenous appendix. I used a rubber tube drain and gauze and the patient made a good recovery.

Such cases impress upon us the necessity of early operation. We ought not to take any chances. As soon as the diagnosis of appendicitis is made we should operate provided we see the patient early in the history of the attack.

Dr. William H. Maley, of Galesburg:—I wish to put on record a recent experience I have had. Last Wednesday morning, early, I was called to attend a young man suffering intense pain in the abdomen, and I made a diagnosis of

appendicitis at once, and told him he should be operated on. His first remark was, "Nobody can stick a knife into me." However, after I told him what was the matter, he gave me a history of having had two previous attacks, and since that time he has admitted he had three. The last attack was more severe than either of the former ones. I did the best I could for the young man under the circumstances, trying to relieve the pain, keeping all foods and fluids out of the stomach. But finally, last Saturday morning, seventy-two hours after I first saw him, he consented to be operated on, and at that time the abdomen was about as tympanitic as it could be and the man live. Pulse ranged between 130 and 140; the temperature ranged between 100 and 101 F. He was vomiting. He had nothing in his stomach to vomit except that he spat up a little black stuff. There had been no gas passed through the bowels. What I want to find out is, what should a surgeon do at such a time? The man was almost in a dying condition. His face showed it. I went ahead, made a low incision, expecting to drain, and, no sooner had the peritoneum been opened, than fluid escaped. The peritoneal cavity was full of bloody fluid; the intestines popped up so fast that it was all my assistant and myself could do to keep them in the abdominal cavity. We walled off the bowels as best we could and located the pus low down in the right iliac fossa, wiped it out, put in drainage and closed the abdomen. That was last Saturday noon. The young man was still living on Tuesday and was in better condition than when he was operated on. I will admit, I was uncertain as to whether to operate at that time or not.

Dr. Channing W. Barrett, of Chicago:—I have some convictions in regard to appendicitis. If we had in every town in the state of Illinois men with the convictions of Dr. Rafferty and all the cases of appendicitis were falling into their hands primarily, there would be very few problems in appendicitis to discuss. But we have some problems in appendicitis to deal with at the present time. One of them is to get every practitioner who sees a case of appendicitis primarily to make an immediate diagnosis of it. The statement has been made that it is very difficult to make a differential diagnosis of appendicitis. It is not so difficult to make a diagnosis of appendicitis as it is to say what is going on in that appendix. A man who sees many cases of appendicitis usually readily makes a diagnosis. If it is difficult in a given case, with few exceptions, it is not because the symptoms are not present, it is because the man fails to interpret what he finds. One problem then is to get the hundreds of men that see the cases first to make an early diagnosis. The next problem is to get those people who have appendicitis, and their friends, to consent to an operation. One of the difficulties, to be sure, is the dread that is felt by nearly all of having an operation. There is a widespread fear of the anesthetic. The layman counts the abdominal incision a dangerous thing, and hopes that the condition in the abdomen will prove harmless unoperated. But a still greater cause for inactivity on the part of the patient is the failure of the whole profession to have a unanimity of mind in the matter. One insists upon operation and another says he has great success in "scattering" the inflammation. And indeed, we find the difficulty well scattered in these cases. But after all, the patients want to get well, sometimes in their own way, to be sure, but if the profession could thoroughly and unitedly decide that appendicitis is a surgical and not a procrastination disease, this problem of getting the patient's consent would be solved. People do whatever a united profession insists is right. In cases like that cited by Dr. Maley, I usually make it so emphatic that an operation is necessary that the patient submits to the operation or wants to change doctors.

If the cases of appendicitis, then, are seen and managed by men who make the diagnosis early, who have the courage of their convictions, who do not make the mistakes of waiting as mentioned by Dr. Rafferty, but recommend an early

operation, the mortality will almost completely disappear from acute appendicitis.

Dr. Bertha Van Hoosen, of Chicago:—I can sympathize with those who encounter difficulty in making a diagnosis of appendicitis in some cases, and in my judgment we have something to learn about appendicitis yet, although we may be able to find some diagnostic point that we can depend upon.

Two weeks ago I had a couple of cases to take care of within two days, so that they were particularly interesting to me. One was a nun at Joliet. I was called to see her because she did not feel well. She was unable to work. She was run down and nervous. She had never had an attack of appendicitis; she had never had any nausea; she had absolutely none of the typical symptoms of this disease. I undressed her, made a thorough examination, and so far as I could determine her pelvis was normal. She had a slightly movable kidney; likewise tenderness at McBurney's point. That was the only symptom I could find. I told her I believed she had some chronic trouble in the appendix, and when I said to the Mother Superior that possibly the Sister had appendicitis, she felt I must be mistaken, because, she said, she had never had any symptoms of appendicitis. I said she would better have an operation if she did not feel better in a short time. They decided immediately that she should have an operation for the movable kidney. I found the appendix simply buried in a mass of adhesions, requiring half an hour to separate them, and the appendix had to be dug out. When I got down to the cecum it was a mere shell requiring no ligatures, and the end filled with the largest concretion I have ever seen. She had had long-continued trouble in that appendix.

The next day a girl was brought to me from the country. She had had a very severe attack of what we thought was appendicitis a year before. This was uncertain. The patient had had, a week before, such a violent pain in her right side that everybody about her, particularly the members of the family, thought she had appendicitis. When she came to me I made an examination and found she had great rigidity on the right side. She had had every symptom of appendicitis which is mentioned in the text-books. It was a typical case. I was to decide whether she should have an operation immediately or not. I had a blood count made, and the leucocyte count was nearly 20,000. I decided that the appendix must be on the point of rupture. I found, however, she had a retroversion of the uterus, so I thought I would do a ventrofixation at the same time. I made an incision in the median line and found the abdomen contained quite a large amount of blood, perhaps half a teacupful. The appendix was perfectly normal. I removed it because the physician was anxious to have it removed. The blood came from a rupture of the Graafian follicle. The ovaries were quite cystic. I removed some of the cysts and reduced the ovary to normal size. I did a ventrofixation. We have to find some new diagnostic points we can rely on before we can advise, in every case, an immediate operation.

Dr. Charles B. Brown, of Sycamore:—When I attended a previous meeting of this society held in this city, I heard practically the same talk that I have listened to to-day. I take the same position that the essayist does in regard to these cases, and perhaps that is the reason why I see so few cases of appendicitis. The gentleman who read the paper has related cases of appendicitis, which have occurred in country practice. In the country, patients and people know you. They know your views in regard to this disease, and they do not want you. They want the other fellow, because they think you want to operate on them. If you visit some of the small towns and make inquiries you will find either the patients themselves or the physicians use antiphlogistine in cases of appendicitis. There is one man in a neighboring town, for instance, who says that he has never lost a case of appendicitis. Patients really do not know what to do. Whose fault is it? It is the fault of the medical profession and not of the people. People are not properly advised. We would not have this discussion if we did just the sort of

thing of which the essayist spoke. The time to operate upon a case of appendicitis is immediately after the diagnosis is made. If the advice to operate at once is accepted, then a large percentage of patients who now die without operation would recover. They do not die from early operation, but they die because they have been trifled with. Probably a small fraction of 1 per cent. of these patients die from the operation of election. When these patients are trifled with they will die, and we will continue to talk about appendicitis as we are doing to-day.

A professional friend of mine was called to see a case one Sunday afternoon. The next morning he pronounced the case one of appendicitis. The following morning I was called to see the patient and concurred in that diagnosis. The father said to me, "Dr. Brown, this is your patient; whatever you say goes." I operated on the boy immediately, and in ten days he was well. Some of these patients die because there is no unanimity of opinion on the part of the doctors; they cannot come to a decision as to what is the best course to pursue; consequently patients are trifled with until they die, and it is the doctor's fault that they do die.

Dr. G. W. Green, of Chicago:—I would like to call attention to the fact that syphilitics develop general peritonitis very quickly after an operation for appendicitis. They do not seem to have the power to wall off the septic process as quickly as the other class of patients. If a syphilitic patient develops appendicitis and you leave the case go for a short time, hoping the septic process will be walled off, he may develop general peritonitis very quickly. Delay is dangerous in syphilitics.

Dr. Rafferty (closing the discussion):—I appreciate this discussion of my paper, and I feel that my purpose has been partly accomplished, at least. The point made by the last speaker with reference to general peritonitis is very well taken. In young children the peritoneum has not the power of limitation that we find in adults. A child with an infected appendix is much more liable to develop rapidly increasing peritonitis than an adult. The point I want to make is that in children we do not have the power of adhesion as marked as we find it in adults. Children need to be operated on more strictly than adults; and my experience has been that they are much more liable to develop general peritonitis.

In regard to operating on the moribund patients I think every case is a law unto itself, and one should act accordingly; but in the small communities sometimes there are reasons which make differences of choice. A patient with appendicitis who has general peritonitis and is going to die you think probably would die with or without operation. If that patient wants an operation, you may save him by doing it. But, on the other hand, if he should die you are just as likely to prevent the next patient from being operated on. Very commonly that is the case. A patient may speak of somebody else who has had appendicitis, was operated on, and died, and he does not feel like undergoing an operation himself. In some communities, whenever a patient dies after an operation, he dies from it. That has made me hesitate to advise operation in apparently hopeless cases. I believe it is better to let some unpromising patients die and get to operate on those in which something can be accomplished.

In regard to the percentage of deaths and recoveries, I will say that it is estimated that from 80 to 85 per cent. of patients with appendicitis recover from the first attack, and in a certain per cent. quick operation is apparently useless. If we operate on 100 per cent. in order to save 20 per cent., we subject the 80 per cent. to a useless operation, which is, however, practically without danger, and practically there is but a mortality of 1 per cent. In other words, 80 per cent. are subjected to a useless operation for the benefit of the 20, although, of this 80, there will be subsequent attacks in a number of cases.

In discussing this subject before other societies, I have heard men make the statement that they had seen only a few cases of appendicitis. I have heard others

who said they had seen a large number of cases, say that they never had a death. I have seen quite a number of cases, and they have progressed so rapidly that they have made a strong impression on me. I put those men who have seen a large series of cases of appendicitis without a death in the same category or class as those practitioners who have attended a large number of confinements without having a laceration of the perineum.

SOME OF THE COMPLICATIONS AND EMERGENCIES IN THE SURGICAL TREATMENT OF OVARIAN CYSTOMA.*

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Of all ovarian tumors subject to radical surgical intervention, about 60 per cent. are the multiple or multilocular ovarion cyst-adenoma. In estimating this percentage, I do not consider those slighter cystic degenerations in the ovary which should receive conservative surgical treatment. The multiple cyst-adenoma is the classical tumor of the gynecologist, recognized, treated and operated upon for many years before the microscopic and pathologic character of other ovarian tumors was understood. The general consideration of the etiology, pathologic histology, differential diagnosis and anatomic relations of these tumors is of too wide a scope for consideration in this short paper. I merely wish to discuss briefly some of those more common complications and emergencies which present themselves to the surgeon in his operative procedures for their removal.

In former years these tumors usually grew to large size before resort to surgical intervention, and still, in this present day of "frenzied surgery," it is not uncommon to see them weighing many pounds. It is in these large polycystic tumors of long standing that the most serious complications meet the surgeon. The complications may be divided into those arising from the changes in the cyst itself and those occurring from changes and conditions in the abutting tissues or organs.

In the first class are (a) hemorrhages, (b) suppuration within the cyst, (c) adhesions, (d) torsion of the pedicle, (e) rupture. In the second may be considered (a) ascites, (b) intestinal obstruction or strangulation, (c) pregnancy.

(a) Hemorrhage into the cyst may happen from multifarious causes. The most frequent is torsion of the pedicle. Moderate torsion interferes with the return of the blood through the veins, while the arterial circulation is still maintained. These hemorrhages, when copious, as in acute torsion, may seriously endanger life and produce profound collapse.

(b) Suppurations within the cyst may be produced by a variety of conditions. They may result from infection through the Fallopian tube, the bladder, intestinal canal, or from appendicitis, phlebitis, etc. Formerly, a common source of infection was the process of tapping, which measure should only be used as a preparatory one to radical operation, in those

* Read before the Section on Surgery of the Illinois State Medical Society, at Springfield, May 15-17, 1902.

cases where the growth has become so large as to seriously interfere with respiratory processes. These infections or suppurating conditions are so common in ovarian cystoma that, in their removal, the technic should comprise the most detailed precautions to preserve the abdominal cavity from infection. The occasional presence of fistulous openings into the hollow viscera of the abdomen, from suppurating cysts, is a condition that may at any time meet the surgeon in the removal of these growths.

(c) The most common complication, which presents emergencies of all kinds and varieties in the surgical treatment of this condition, is the existence of adhesions. When they have existed for some time, forming broad, fibrous bands of close adhesions, the task of removal becomes an exceedingly difficult, tedious and sometimes an impossible one. When the parts remain in contact, or in only slight movement, sessile adhesions are formed; where the movements are more active, the bands of adhesion are elongated, forming broad or narrow isthmi, connecting the tumors and adjacent tissues. It is in cases of extensive, firm, fibrous, sessile adhesions to abdominal viscera or tissues that some of the most perplexing questions in these operations arise. With such adhesion to the bladder, shall the surgeon persist in enucleation or leave behind a portion of its wall? Shall he enucleate from the intestinal wall, resect or leave behind a portion of the wall? In deep-seated, firm, pelvic sessile adhesions shall he be radical or conservative? I fully recognize the fact that every operator must, at the time of operating, be the judge as to how far he may go in the removal of tumors associated with these strong adhesions. There is no doubt that to the average surgeon it is much more pleasing, and he deems it much more a test of his surgical skill, to remove all of the pathology which he attacks, to restore the parts to near their normal state, but I believe that in many of these cases it will inure to the patient's welfare if he possesses himself with modesty and refrains from radical methods.

The plan pursued by Kelly of Baltimore gave me most excellent results in one of these cases, where adhesions to mesentery and intestine of considerable extent were so dense and firm that a little experiment demonstrated that it would be impossible to separate them without extensive injury to the bowel. The sac of the tumor, which was a multiple cyst, was packed with iodoform gauze after the evacuation of its purulent contents. I then followed the method of Kelly, the cyst wall was incised to the extent of about half its thickness about two centimeters from the gut all around the area of adhesions, then splitting the wall of the cyst in the line of its cleavage much after the fashion of splitting leather, thus reducing this seemingly insurmountable obstacle to further successful enucleation of the cyst to the very minor danger of leaving a portion of uncontaminated cyst wall in the peritoneal cavity, which in no way interrupted the recovery of the patient. Where this method is not feasible, the leaving behind of portions of the contaminated cyst wall with proper drainage is certainly more conducive to successful results than protracted effort at enucleation, which, even if successful as far as tissues are concerned, so often carries the patient to such a point of exhaustion that she never rallies from the shock.

It would seem perhaps supererogatory, in this body of intelligent medical men, to speak of the need of caution in making the incision of the abdominal wall in these cases. But as I have seen one of the most eminent surgeons and expert operators of this country cut into the bladder in making the abdominal incision for the removal of an ovarian cyst, it would seem that without due care any of us might meet with accidents. Adhesions of the cyst to the bladder may drag it up extra-peritoneally, almost as high as the umbilicus; such being the condition in the case to which I have referred, the bladder being pulled up extra-peritoneal to within an inch of the umbilicus. Another condition which renders necessary careful incision of the abdominal wall is the presence of loops of small intestine confined by adhesions of the anterior parieties under the line of incision. In the case of a young girl of 15, from whom I removed, last June, a multiple cyst adenoma weighing thirty-five pounds, I found, directly under the incision, numerous loops of the ileum tightly adherent to the parietal peritoneum, entirely empty and flat, and so nearly the color of the very attenuated peritoneum that I barely escaped cutting into the lumen of the bowel. A rapid incision such as I have frequently seen made by surgeons would almost certainly have wounded the intestine.

(d) Torsion of the pedicle occurs in about 10 per cent. of these cases. It is induced by a variety of causes. The rotation varies from a half circle to as many as ten or twelve complete twists. The veins are the first to suffer from rotation, causing acute enlargement of the cyst from extravasated blood. These hemorrhages may be so extensive as to produce death from syncope. Where the torsion is so much as to interfere with the arterial supply, there is necrosis followed by decomposition and putrefaction. The rupture of an ectopic pregnancy may give rise to symptoms which might be mistaken for torsion. Happily, the means for relief are the same in either emergency.

(e) Rupture of the cyst is generally sudden, though occasionally it is gradual from change in the cyst wall. In multilocular cysts especially, rupture of the cyst is often followed by infection and a rapidly following peritonitis. In papillomatous cystoma, rupture results in the formation of growths upon the peritoneum, sometimes studding almost its entire surface.

As to the complications due to the changes in the abutting tissues, ascites is the most common. This is seldom present, though, to any large extent, as long as the tumor maintains a benign character. Whenever it is extensive, the probabilities are that malignant degeneration is going on. Of course, I am referring here to a true ascites and not an accumulation of fluid in the abdomen from ruptured cyst walls.

Intestinal obstruction or strangulation may occur from pressure of the cyst upon its walls; this may have proceeded to such an extent as to require resection of the afflicted gut. Occasionally, volvulus is produced by the collapse of a ruptured cyst, to which an adherent loop of intestine is attached.

Pregnancy, occurring in connection with ovarian cystoma, is a grave complication. Ovarian cystoma are frequently successfully removed

without interrupting the normal progress of pregnancy, but, unless urgent indications to the contrary exist, surgical intervention is postponed until the termination of the puerperal period. The possibility of adhesion of the cyst with the liver is an argument in favor of operating during pregnancy, where the diagnosis of a multiple cyst is made. A number of cases have been reported where the gravid uterus has lifted an ovarian cystoma, so that they formed serious adhesions with the inferior border of the liver. After labor, the adhesions prevented the descent of the cyst as uterine involution proceeded and the consequent tugging brought about their rupture or extensive hemorrhage.

Showing the possibilities of such complications as these occurring through the dislocation of cystoma from being pushed out of their ordinary location by an enlarging uterus, with consequent adhesions to distant organs, I wish to report the following two cases:

Case 1.—Mrs. M., aged 43, housewife, living on a farm. Married at 27. Mother of three children. Last labor seven years since. About four years ago noticed enlargement of abdomen, which has since steadily increased. Two years ago began to have menorrhagia, which has continued with varying severity to the present time. About three months ago was attacked by severe pain in right hypochondriac region, from which she was obliged to remain in bed for several days. Since then has had constant feeling of weight, dull pain and dragging sensation about the region of the liver. Physical examination revealed an abdomen enlarged to about the size of full-term pregnancy. By means of palpation, two distinct tumors could be distinguished, and a diagnosis of uterine fibroma with probably ovarian cystoma was made. Operation was done in patient's home, a better class farm house. Upon opening the abdomen, a large uterine fibroma was found, extending as high as the umbilicus, but the fundus pushed partly to the left by the lower border of multiple cyst of the right ovary, which had been pushed far up into the right upper abdomen, and was attached by a long, broad pedicle. Extensive adhesions were found everywhere, most of them friable and easily enucleated.

In exploring the cystic tumor, adhesions to the parietes and intestines were easily loosened until its apex was reached, which was found to be under the border of the liver and attached by such firm adhesions that I feared to attempt their enucleation. I, therefore, made a cross-section of the abdominal wall, and, after packing the abdomen with large gauze sponges, emptied the cyst by trocar, and, after incising and packing it with iodoform gauze, I then cut through about half the thickness of the cyst wall around the area of adhesion, peeling off the remainder of the wall, and leaving attached to the liver a portion of the wall which I hoped was free from infection. In closing this part of the wound, a cigarette drain was introduced, which was removed on the third day, after which there was rapid closure of the wound. The fibroma was removed by hysteromyomectomy with very little trouble.

Case 2.—Miss T., aged 48, housekeeper. Menorrhagia for six months, enlarged abdomen, uterine tumor, tumor in right hypochondriac, which had been diagnosed as enlarged gall bladder. A few days before seen by

myself had an attack of severe pain in right iliac region, with tenderness, fever and vomiting, which the attending physician had diagnosed as appendicitis. Examination revealed a large uterine fibroma, with a second tumor above and to the right of the uterus, on the outer aspect of which was a smaller tumor, very sensitive to the touch. Laparotomy was done immediately, when there was found uterine fibroma extending almost to the umbilicus, with a unilocular cyst of the right ovary pushed up to the border of the liver. This was found free from adhesions, except upon its outer lower border, where on pressing the hand around the tumor it was found rather tightly adherent to a bunch of intestines, from which, after careful manipulation, it was found and extirpated. Upon examining the intestinal mass from which it had been freed, it was found to consist of a cecum, a portion of the ileum and colon, and enveloped in them a much enlarged and partly necrotic appendix. The appendix was amputated, the stump invaginated and covered with Lembert sutures. Hystero-myomectomy was done, the abdominal wound closed. The patient convalesced beautifully, her temperature never rising above 99 degrees F. subsequent to the operation, and she was sent from the hospital to her home at the end of two weeks. The ovarian cyst was extirpated without rupture, was as large as an adult head and weighed seven pounds.

DISCUSSION.

Dr. Thomas J. Watkins, of Chicago:—This is such an important subject that this paper ought not to go by without discussion. The essayist spoke of leaving some of the cyst wall. Simply splitting it is much better than attempting a difficult enucleation. There is very little danger of leaving a portion of the cyst wall, which is very much adherent, in cases where we are not able to split it, and remove a part of the membrane. A large portion of the cyst wall can be removed without any bad ultimate results. It will simply result in becoming cystic, the secretion continuing and having a small cyst form. I would disagree with the essayist in using drainage in a case like that unless we were sure the case was septic, because if we use drainage the part of the cyst wall that is left is almost sure to suppurate and leave a sinus for a considerable time. Without drainage, if the case is not septic, there is no danger of suppuration.

A study of these cyst cases brings out some important points in intraperitoneal pathology, and one is the gangrene which results from torsion of the pedicle. When gangrene results we know that bacteria are present. If there are no bacteria we get no gangrene. In an ovarian cyst, if the pedicle becomes tainted, does not come in contact with bacteria, we will simply get atrophy, and not gangrene. In most of these cases the only possible route of infection is through the intestinal wall; and modern researches have shown that bacteria in normal cases pass through the normal intestinal wall, and these cases of gangrene can only be explained by the bacteria which migrate through the intestinal wall, and when a cyst becomes twisted, it easily becomes infected.

Dr. Channing W. Barrett, of Chicago:—Ovarian cystomata are always interesting from the standpoint of the history. It is through these tumors that gynecology and abdominal surgery had their development. But it is not from this standpoint that the general practitioner is interested, but from the practical standpoint of dealing with the cases. I wish to say a word or two in regard to ovarian cystomata complicating pregnancy. All of the complications of the cystomata are intensified by the onset of pregnancy. The pedicle is more liable to be twisted, hemorrhage is more liable to occur, pressure upon important organs is more apt to take place, including pressure upon the ureters and kidney. The time was when these cases of cystomata, no matter what size, at the onset of

pregnancy were allowed to take their course until something occurred. If complications arose or abortion threatened, the uterus was emptied.

I wish to call attention to the fact that the pregnant woman is not so immune to operation now as she was at one time. Even operations upon the uterus and tubes are done with perfect success. Ovarian cystomata should be removed immediately upon the onset of pregnancy; instead of pregnancy being a bar to operation it offers another argument in favor of an operation, of not allowing the case to run on until complications set in, or until the pedicle becomes twisted, or hemorrhage occurs. But immediately, on the onset of pregnancy, or at any time when such condition is found, the woman should have an operation for the removal of the cystoma.

Dr. Eyster (closing the discussion):—I think Dr. Watkins, in the remarks he made, is absolutely right; that drainage is unnecessary unless there is infection, but I think where one feels there is marked danger of infection in leaving an infected cyst wall, it is well to prepare for that by drainage.

As to operating for the removal of ovarian cystomata during pregnancy, I agree with Dr. Barrett to a certain extent, but I believe the cases should be selected, and those which can be safely left should not be interfered with. Those cases in which there is a fair probability that there will be dangerous complications from allowing them to proceed until the termination of pregnancy should have surgical intervention.

THE NUTRITIONAL BACKGROUND OF ADOLESCENCE.*

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One of the most promising and valuable fields of collateral research, in which medicine shares in its advancement, is that of psychology. Not that the new psychology, in all of its essentials, marks a signal advancement over the old (for it is a fact that human nature is much the same as it was since it began to think of itself), but that, while thought is essentially the same, the mode of its presentation, patiently worked out in new ways, appears, and is, more in line with the scientific trend of the age. It aims to dispense with the useless, confusing and obscure verbiage and places mind, in the study of its nature and functions, where it rightly belongs, as life, dependent upon an organic basis, capable of growth and of development, of dissolution and of decay. Further, the new psychology aims to demonstrate that mind, in its life, demands the co-ordinated normal functioning of bodily organs as a whole and the particular balance of the "exquisitely fine networks of the nervous system, which are indispensable conditions of its earthly being, which grow in number and complexity with its growth and on the integrity of which its functions depends" (Maudsley). In simple words, we bring psychology down from the abstract heights of the metaphysician to the organic basis of the new psychology, and in doing so interpret mental functions in terms of physical organization, bespeaking, therefore, a very material origin of mind, imbued with sense experience, physical perceptions and dependent upon

* Read before the Section on Medicine of the Illinois State Medical Society, at Springfield, May 15-17, 1906.

the human body as an organic mechanism, which, charged by nutrition, discharges itself into functions so long as it is alive.

"Production, preservation, destruction is the inexorable cycle of life, be it mollusk or man, matter or mind," says Maudsley, "and we who view the mind in disease or the body in disease recognize this cycle and know that when vital force signally fails to rise to the height of its mission, or else is perverted and ceases to perform its mission properly, then the result is innate weaknesses which fall below the normal level of average human experience, showing that there is back of all a nutritional factor in subtilities of life. There are powers within us, diverse in their reactions and dependent upon a potential, innate, constant and measured force; to some, this vital force reaches its fulness in childhood, then this native complexity of conditions has reached its maturity, and now mind, like the spent ball of the rifle when its propeling force has ceased, falls to earth and ceases to respond in its normal activity. In others, it is during adolescence that collapse occurs, and then under very similar conditions; in many cases showing that the complexity of mind has an inherent potential dependent upon organic antecedents, which we can trace step by step and largely through nutritional changes."

Even the mild perversions, physical as well as psychical, have a nutritional basis, and it is of this nutritional background of adolescence that I wish to speak, and more especially with reference to the psychic phase of the subject. It is in this field that psychology is creating the opportunity for a wider diffusion of useful and practical knowledge, serviceable in the every-day practice of the physician and useful in the brilliant promise it offers us in formulating sensible ideas regarding youth and its disorders, physiologic and pedagogic.

There is developing out of the mass of data supplied us by the psychologists, notably the work of Dr. G. Stanley Hall, a new specialty in medicine, the diseases of adolescence. It is right that this specialty should develop, for the time is now opportune for just such special work. It was but comparatively a few years ago when diseases of children were not known with that clearness which now characterizes the specialty of pediatrics, and now youth, in its physiologic and psychologic variations, is going through the evolutionary period of its development into a special field of research and clinical study. The study of diagnosis during this period makes us cognizant of the fact, as Taylor says, that adolescence is a period when young people have not entirely escaped liability from many of the disorders of infancy and childhood and when many diseases of maturity have not yet acquired full strength, so that the individuals are then peculiarly prone to slight ailments, although the mortality rates are low.

Again I would say most of these slight ailments are nutritional and are, unfortunately, overlooked or are masked by other features which should caution us never to ignore the slight nutritional ailments of an adolescent, because they are warnings, signs of the approach of a formidable foe, which may leave a path of sorrow, disaster and woe in its train. These slight ailments may be all sufficient to arrest or pervert nutrition, just at this crucial period, and to throw the balance on the wrong side.

Normal equilibrium in health is dependent upon nervous stability,

implying complete development of the nervous system and integrity of its structural elements. In the abnormal, even so slight as to require painstaking inquiry to determine impairment, these well-known embryonal nutritional conditions, in their genetic potential, may go so far out of the way in development as to impair the growth and even the birth of the higher faculties of mind. Hence, the importance of a knowledge of the genetic psychology, the genetic idea which, as Baldwin says, "implies a growing, developing activity and this may be involuntary or evolutionary, according as the egoistic or the racial potentials or motives are good or bad." This suggests to us that inheritance, the racial or family potential, is a genetic factor in this nutritional problem before us, and also suggests that this factor, with its accumulated storage of energy, is little understood or fully recognized, in its power to make or break, by its destiny, the career of the individual.

It is of the greatest importance, therefore, that we consider all of the facts which, singly or collectively, have a nutritional bearing upon the individual during this plastic age. We must know more of family history, wherein will be found the genetic factor; we must know more of environment that we may know how to attune it to the individual, rather than the individual to the environment; we must know the individual with his characteristics and his tendencies that we may suggest reinforcements, here and there, that will strengthen character foundation, thus contributing that very important educational training so important to the adolescent just at this crucial period when the higher faculties are born and molded. Our problem, the nutritional background, then, really resolves itself into three considerations, a tripod, as it were, upon which success rests. The three legs support it, but the failure of any one leg precipitates the whole and failure results. The legs of this tripod are the three factors, viz.: the physical, the environmental and the educational.

Physical Factor.—The physical includes the great subject of bodily health, including the mind, which is a part of our physical being, and indicates bodily disease when deranged. It is unfortunate that many of our capable practitioners regard the youth in his physical development, in his departure from health, and especially in his varied nervous and mental disturbances, rather as an adult, only differing in proportioned weight and age, not considering the developmental processes incidental to this age, with all of their modifying influences. The study which Dr. G. Stanley Hall has made of adolescence is the most complete and classic study of this period ever made and fills in that "remarkable gap in the literature and knowledge concerning health and disease during adolescence." He has clearly shown that most of the ailments of this period are due to disproportionate development, emphasizing the observations of Raux that different organs and tissues or determinants compete for the available nutritive materials in the blood, and that some, for a time, get ahead of others in this internal struggle for survival among the different parts or independently growth units. If functions or tissues that ought to develop at the age of 20 appear at 15, or earlier, we have

here on a small scale what, if excessive, constitutes, from an evolutionary point of view, the precocious which is an abnormality and which may do harm because each determinant should get its full share of growth energy so that height be not at the expense of weight or the nervous system at the expense of the body or *vice versa*.

This subject has been admirably worked out by Hertel and others and it is important that physicians know of and study the individual needs of the adolescent cases under his care. It is true that if the needs of the body are known, much can be done in shaping the career of the patient, aiding in his mental development and regulating the complex physical needs. Hall says: "The more we know of the body the more clearly we see that not only growth but every function has a trophic background; that through all the bookkeeping of income and expenditure every organ is, in a sense, a digestive organ; that the body is a machine for the conservation, distribution and transmission of energy, and that man is, physically considered, what he eats and what he does with it or, better, what he completely digests." "From the standpoint of the higher metabolism, every cell and tissue has its own specific hunger, and what we call appetite is a symphony of many parts, or a net algebraic result aggregated from the specified hunger of all the tissues and cells."

Hall further says: "In a sense every disease is due to cell hunger, and old age and death are progressive starvation." "To feed well causes lower organisms to pass rapidly and surely over the stages of growth, while insufficient nourishment causes arrest, whether in larva or child. A well-balanced dietary is especially necessary at adolescence, when the range of appetite normally enlarges. Bad eating habits, either in quality or quantity, are at the bottom of most breakdowns in student life and are among the chief causes of intemperance. Probably no period and no condition of life suffers reduced vitality and efficiency from errors in diet so much as brain working and sedentary youth, despite the fact that none better can sustain such errors, so far as life and tolerable health are concerned."

The question, then, of proper food and proper habits of eating are of great importance, and my experience in dealing with adolescents, many of whom are, or have been, college students, is that many, especially girls, accustom themselves to a minimum of food, an insufficient supply at that, and thus pave the way for decided faulty nutritional conditions. Sooner or later a collapse follows and, to the teacher or parent, it comes as a thunderbolt out of a clear sky; and yet to the experienced physician it is but a climax to conditions which have been existing for months.

In a previous paper on "Bodily Weight as a Factor in Prognosis in Nervous and Mental Diseases," I said, in speaking of the signs indicating mental change: "To me, one of these is nutritional change. It may appear as a whimsical appetite which is hampered by indulgent relatives and friends, and may sooner or later domineer the household and lead to the establishment of faulty habits, unwise routine and revolutionary conditions. To meet the demands of such a case we must remember that the

underlying principles of treatment are unquestionably isolation, rest, nutritional development and the wholesome suggestion, as expressed by Maudsley, 'of keeping in view before the patient and unconsciously ingrafting in him the silent conviction that he is not distinct from his kind and extinguishing the desire to be particular and to distinguish himself from them.'"

Chittenden, in his recent studies, reported with scientific accuracy and reliability, in his most excellent treatise on "Physiological Economy in Nutrition," has shown that there is no subject of greater physiologic importance or greater moment for the welfare of the human race than nutrition. That the physical condition of the body exercises an all-powerful influence upon the mental state and that a man's moral nature even is influenced by his bodily condition are equally certain; hence, the subject of nutrition, when once it is fully understood and its precepts obeyed, bids fair to exert a beneficial influence not only upon bodily conditions, but likewise on the welfare of mankind in many directions. Chittenden makes a plea for simple living. Really remarkable are the results of his experiments, especially as regards the amount of proteid diet necessary to maintain health and full bodily efficiency. The physiologic economy, as taught by him, is not a fad nor a fancy, but a strictly scientific proposition that is full of suggestion for the betterment of health. We should study these results and urge the application of his suggestion in the nutritional problem of the adolescent, thus bettering the physical condition of the body, improving physical strength, giving greater freedom from fatigue and imparting a condition of well-being that is full of suggestion for the betterment of health.

Environment.—The second leg of our tripod is environment, of which I will speak briefly, and then only to urge the observation of self-evident rules of living, which lead to a wholesome life of usefulness. My experience has been that, unfortunately, most adolescents who have come under my care have been living in an environment not wholesome and under conditions which make me feel that the climax which has brought them to me is not accidental, not even spontaneous nor a freak condition outside of mental laws, but is rather the result of faulty living, with a not infrequent genetic foundation, uncorrected by rational training and right living. This is evident in that rather hard-to-describe but nevertheless apparent marking of the individual; that condensation of force in delicate cerebral mechanism, which shows itself in that process of humanization which the face delineates and the conduct belies. In some the constant power of the quiet reserve of good breeding is marked and in these the faulty living has been, through over pressure, over fatigue or a delicately constructed nervous mechanism, easily thrown out of gear by too much pressure. In others the tumultous agitation of the vulgar, the uncouth, the unrestrained and the selfish is shown through the play of the facial delineations, sustained by that great criterion of mental perversion, conduct. All differences of individual character reach down to the organic depths of mind; the native differences of organic sensibility with their accompanying differences of reaction necessarily build up dif-

fering reflex mechanisms, that is to say, differing modes of feeling, thought, judgment and conduct. We who see cases of mental disorder eventually draw our own inferences as to the real and apparent factors in causation. Environment, I am sure, reacts upon the organic depths of mind, its seat, in fact, and it is, either directly or indirectly, a great factor in nutritional conditions. I do not believe that it is possible for a youth, especially a girl, with genetic tendencies, to live in an environment of moods, gloom and despondency, without showing a failure of nutrition and a belated development into womanhood. I have repeatedly found that such patients present a history of delayed menses, several not having menstruated until 18 or 20 years of age; others show infantile pelvic organs; others show disproportionate development in other ways and marked mental peculiarities, such as timidity, loss of self-confidence and the very unfortunate disposition of being moody and dissatisfied with their lot. I think that it is cruel, too, for a young girl to live in such an environment, and ere it is too late it is advisable to transplant this budding woman into more wholesome and suitable surroundings. Just here is where our modern woman's college, with its attention to the physical as well as mental needs of the young woman, is making for itself a valuable place in social and racial development.

The Educational Factor.—It is everything to the adolescent to know the right way toward development, and despite the habits of poets and of many others, as Hamilton Mabie reminds us, youth is not always a period of unshadowed gaiety and pleasure, with no consciousness of responsibility and no sense of care. Mabie, in his thoughtful, analytical essay on the "Pain of Youth," says: "Youth symbolizes the immortal part of man's nature and must be, therefore, always beautiful and sacred to him. But it is untrue that the sky of youth has no clouds and the spirit of youth no cares. On the contrary, no period of life is, in many ways, more painful. The finer the organization and the greater the ability the more difficult and trying the experiences through which the youth passes. The young man is an undeveloped power; he is largely ignorant of his own capacity, often without inward guidance toward his vocation; he is unadjusted to the society in which he must find a place for himself. Youth is possibility; that is its charm, its joy and its power; but it has also its limitations. There lies before it the real crisis through which every man of parts and power must pass; the development of the inward force and the adjustment of the personality to the order of life."

It is just here where many of the mistakes in life are made, in the adjustment of the personality to the order of life, both in the young man and the young woman. Not knowing their limitations; not knowing their capabilities and beset by physical and environmental conditions, the effects of which are not fully realized, they too often drift aimlessly into the realities of experience, unprepared to meet the demands made upon them, and as a result many are compelled to search hard in their endeavor to find their place in the general order of life's routine. Even in the most harmonious natures, the elements of agitation and ferment are rarely ab-

sent. These are inevitable in experience, and if properly circumscribed and properly directed good may result. Mabie says: "In youth that which is to be feared is not the explosive force of vitality, but its wrong direction; and it is at this crisis that youth so often makes its mute and unavailing appeal to maturity."

Here is where the educational factor serves to conserve energies, cultivate patience and fidelity and strengthen the possibilities of latent power and nobility of character. Self-knowledge, too frequently, is faulty knowledge obtained in isolated, misdirected effort. The fates and fortunes of existence can not be eluded, but they can be made serviceable in our development by the interaction betwen organism and circumstances which, while circumscribed by individual organization and seemingly inexorably fixed, yet can through education be made to serve the grand and useful purpose of bringing order out of chaos and success out of the fate which the youth's own organization makes for him.

The evil effects of unbalanced culture, especially with girls, is receiving great attention now from the leaders in education and medicine, especially from the broad cultured gynecologists of the type of Playfair, Polk, Dickinson, Dudley and others, who recognize that education means more than the perfunctory methods of the old style, fashionable boarding school and who recognize that the adolescent woman needs an all-around, wholesome training. Playfair (Allbutt's Practice of Medicine, Vol. ix) speaks of this modern, wholesome type of young womanhood, which is doing so much in the betterment of social, racial life, in the following words quoted from the "Speaker" and entitled the "Lawn Tennis Girl": "Sensible people have long ago agreed to accept this new type of womanhood as being distinctly admirable. She has made her influence felt everywhere, both in real life and in fiction. In real life we meet her in every country house, in every foreign hotel and in every London square. And wherever we meet her we come upon an excellent example of healthy, well-developed and unsentimental girl, the girl who does not think it necessary to devote herself to the study of her own emotions and who finds in active physical exercise an antidote to morbid fancies which are too apt to creep into the mind of the idle and self-indulgent."

The same may be said regarding the athletic youth of our day and generation who finds in the ball field, the football contest, track athletics, golf, etc., the necessary safety valve for surplus energy in the wholesome contest which cultivates physical powers, develops mental alacrity and the spirit of give and take, which is a very necessary wholesome lesson to many adolescents. Much more could be said along this line of thought, but sufficient has been said to emphasize the fact that educational means and methods can turn out young men and maidens of this type and thus contribute to a lessening of the number of neurotic, under-developed and physically defective individuals. Such ways and means are doing more for the coming race of mankind than the medical profession can possibly do by the exercise of its own art.

ARTHRITIS DEFORMANS.*

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The name of arthritis deformans is frequently applied to three different and distinct conditions, namely: 1, Hypertrophic arthritis, or true arthritis deformans; 2, atrophic arthritis, or rheumatoid arthritis; 3, Heberden's nodes. True arthritis deformans is a chronic disease of the joints, characterized by destructive changes in the joint surfaces, pain, deformity and impairment of mobility. The various theories of the cause of this disease will not be discussed in this paper, except so far as to state that, in the writer's opinion, the evidence seems to point to some form of chronic autointoxication, probably of intestinal origin, as the exciting factor. The distinctive pathologic lesion is a softening of the smooth cartilage covering the ends of the bones. This softened cartilage is gradually eroded and worn away by the friction and pressure of the joint movements, and the loosened cartilage cells are piled up at the edges of the joint, beyond the area of motion. Here they become adherent, and form irregular lumps and masses which gradually grow larger and harder. It is probable that periosteal irritation causes new bone cells to develop, which add to the extent and solidity of the masses. As time goes on they intrude more and more upon the working area of the joint and reduce the range of motion until a practical ankylosis results. There is never a complete bone-to-bone ankylosis, however, although motion may be absent. The ends of the bones themselves become eburnated, flattened and broadened and sometimes greatly distorted. The capsule thickens, and the synovial folds become fringed with villous proliferations. Some of these may break off and form loose bodies in the joint. There may be free fluid in the joint, but usually it is absent, and the resulting lack of lubrication is one of the chief factors of destruction. Indeed, it is more than possible that a primary dryness of the articulation may be the underlying cause of many of the phenomena heretofore attributed to this group of diseases.

Arthritis deformans usually begins in one of the larger joints, especially the knee, the symptoms being at first merely slight pain and stiffness, most marked in the morning or after resting, and disappearing when the joint is "limbered up" by active use and motion. Little by little the trouble grows more severe and persistent, and some of the other joints may become involved. A slow but steady enlargement of the joint occurs, and a peculiar grating or crepitus is noticed on motion. The limb loses strength and the muscles atrophy. If the process be confined to the head of the femur, as in the so-called "malum coxæ senile," the leg may be shortened by the erosion of the head, and severe deformity will result. If the spine be attacked, stiffness and practically complete ankylosis may be caused by the rough plaques of bone which grow down over the verte-

* Read before the Section on Medicine of the Illinois State Medical Society, at Springfield, May 15-17, 1906.

bral articulations. This is the form of arthritis deformans commonly called spondylitis deformans, or Bechterew's disease (spondylose rhizomelique). Some authors consider it a distinct disease. The general tendency of arthritis deformans is to grow progressively worse, but it may become arrested at any stage. The pain is not very severe and may disappear entirely in time. The whole picture of this disease is more like the neuropathic joint affections occurring in locomotor ataxia and syringomyelia, except that in arthritis deformans the motor and sensory nerve reflexes are normal, and pain is present, while in tabes and gliomatosis pain is absent and the reflexes are abnormal. Tuberculosis must sometimes be ruled out, and a few authors believe that some of the chronic rheumatoid conditions are of tuberculous origin. Tuberculosis is, as a rule, more rapid in its course and joint motion is limited by reflex muscular spasm and not by masses of hard tissue. Tuberculous joints do not give a grating sensation on motion, and they are apt to result in cold abscess formation. They occur most frequently in children (85 per cent.), while arthritis deformans is usually seen in older people.

Atrophic arthritis, or rheumatoid arthritis, is the disease which is most likely to be confused with arthritis deformans (hypertrophic arthritis). It must be differentiated carefully, because the treatment is entirely different. It is a disease of any period of life. It seems much like a general systemic infection, because it is apt to start in several joints at once, especially the hands or feet, and is accompanied by severe pain, fever and constitutional symptoms in many instances. In fact, the signs are not infrequently indistinguishable from a subacute generalized gonococcal arthritis. One form, known as Still's disease, is characterized by enlargement of the spleen and lymphatic glands, in addition to the joint symptoms. In the ordinary course of events, the joints become swollen and the mobility is impaired, but the swelling is due to thickening of the capsule, and not to cartilage and bone masses at the edge of the joints. Permanent flexion deformities develop, and may result in a practical ankylosis. The fingers are drawn to the ulnar side of the hand and are flexed at the proximal phalanges.

The distinguishing pathologic feature is an actual atrophy of the bone and joint structure, as shown by the *x*-ray, with no enlargement or distortion of the ends of the bones such as is seen in arthritis deformans. The joint seems swollen, but this is due to a fibrous thickening of the capsule and to the development of synovial fringes and villi. As the synovial fluid is apt to be diminished or entirely absent, a creaking or grating is caused by the friction of the dry fringes and joint surfaces. This grating can not in itself be distinguished from that of arthritis deformans. The articular cartilage is not destroyed, and bony ankylosis is never seen. The restriction of motion is chiefly caused by the contraction of the thickened and fibrous capsule, which shuts down upon the joint. The fringes and hypertrophied capsular folds tend to fill up and distend the rigid capsule and help in the immobilization. In this disease the history and course are so different from those of arthritis deformans that the diagnosis is usually easy. The *x*-ray affords invaluable aid in case of difficulty.

The treatment of these two conditions is radically different, except in the matter of diet, which, in either case, should be abundant and nutritious. Plenty of wholesome food, with a large percentage of fat, must be given, butter, cream, pork, bacon and olive oil, cod-liver oil or cotton-seed oil. Red meats are just as good as white meats. A large amount of water, preferably alkaline or neutral, is necessary, the amount being of far more importance than the special kind. Careful attention to the bowels is imperative, and a reliable fluid extract of cascara should be given three times a day for long periods of time. No aromatic or pleasant tasting forms of the drug compare with the simple fluid extract. The foregoing treatment applies to both diseases under consideration. Now, since in arthritis deformans there is an actual destruction of the articular cartilage and bone, it is evident that motion is harmful, as it tends to wear away the softened and degenerated cartilage. Motion, therefore, must be prevented by splints or apparatus. If the joints of the hip, knee or ankle be affected, weight-bearing should be prevented by some form of splint, such as the Thomas knee-splint or the Taylor hip-splint, which transfers the weight of the body from the leg to the pelvis. The tuberosity of the ischium is thus made to support the patient's weight, and he can walk fairly well without any danger to the articulations. Protection of this kind often results in a rapid arrest of the disease, with good function and mobility. It is, however, used far too rarely, but the results are most satisfactory even from the first few days, for a helplessly bedridden patient may be walking in comfort almost as soon as the splint is applied. Besides this mechanical treatment, if the joint be one of the dry variety, where the synovial fluid is nearly or entirely absent, the injection of sterile vaselin into the joint cavity may give brilliant results, as shown by the many cases reported by Buedinger. Counter-irritation by blisters or the actual cautery relieves the pain in some of those instances where it is a marked symptom. Open operation with removal of the fringes and the hypertrophied masses has succeeded in curing a few patients, and is especially indicated when the hypertrophy is excessive.

For the atrophic, or rheumatoid, arthritis, since there is no actual destruction of joint cartilage, active measures should be employed to prevent the stiffness and contractions from becoming permanent. Massage, passive motions, forcible bending and active use must be practiced, and every effort devoted to mobilizing the joints. Vaselin injections will give good results, as in arthritis deformans, if the joint be dry. Where an undue amount of fluid is present, aspiration, followed by the injection of 1 per cent. iodin solution, is the rational treatment. Acting on the theory of an infectious origin, Brackett and others have given hypodermic injections of antistreptococcus serum, with good results in certain cases. If the hypertrophy of the villi and synovial folds is extreme, their removal from the larger joints can be done by open operation, as in arthritis deformans, and they do not tend to return. For the old contracted joints with severe deformity, forcible correction under anesthesia should be attempted, and the correction can be made by degrees, at inter-

vals of several weeks, if the full straightening is impossible at one sitting.

It can easily be seen that I am an advocate of active and radical treatment in these appalling diseases. Too often we see unfortunate sufferers who have been treated with medicines, no attempt being made to prevent the deformities. It is far easier to prevent a deformity than to cure one.

A word, in closing, about Heberden's nodes. These small, hard lumps, usually upon the sides of the distal phalanges of the fingers, are apparently a separate clinical entity. They should be distinguished from the enlargement of the base of the phalanges which occurs in atrophic arthritis and which is due to synovial thickening. As described by Heberden, they are sharply defined, conoidal eminences, and the patients who have them rarely have any other joint symptoms. They are not, as has been asserted by many authors, a symptom of either rheumatoid arthritis or arthritis deformans.

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THE SUBJECTIVE SYMPTOMS OF EYE-STRAIN AND THEIR EFFECT UPON THE PUPILS' WORK.*

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Eye-strain may be considered as that group of symptoms resulting from errors of refraction, abnormal balance of ocular muscles and fatigue, or exhaustion, of the nerve elements used in vision. These symptoms include pain in and about the eyes and headache, varying in its locality and occurring at certain periods of time and oftentimes having a definite relation to occupation. The headache resulting from eye-strain has been estimated at 40 per cent. of all forms of headache. This includes mixed cases, or those, in part, resulting from other causes. As a rule, though not always, headache of ocular origin is accompanied by pain in the eyes and more or less inability to use them with comfort. The letters run together, or mix up, when attempting to read, the lids smart or burn and the sclera may appear reddened. Eye-strain may be made manifest by pain in the eyes or back of them, and is usually of a dull or heavy variety, and is often referred to as neuralgia. It may begin in the frontal or temporal region and gradually extend over the head, with some particular area in which the pain is acute. It is more apt to appear after excessive use of the eyes for a considerable period. The eye may be especially sensitive to light on awakening. The results of eye-strain are especially apt to be present after an exhaustive process, disordered menstruation, marked fatigue or anxiety.

Another important symptom of eye-strain is oftentimes the inability to see quickly, and as a result a slow mental process is observed. This, in young children, hinders their proper development and oftentimes changes their character and entire life.

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* Read before the Section on Medicine of the Illinois State Medical Society, at Springfield, May 15-17, 1906.

Fatigue and exhaustion of the nerve elements, used in vision, are responsible for not only the local symptoms, hyperesthesia, anesthesia and paresthesia of the retina, but also for more remote symptoms, as various neuroses and psychosis, about which, however, our knowledge is less exact. Among the more remote, or reflex symptoms, may be included anorexia, dyspepsia, nausea, vomiting, choreiform attacks, some forms of migraine, insomnia and nightmare. There is a direct relation between the general and neurotic temperament of the patient and the severity of the symptoms. Very small errors of refraction may cause much trouble in a neurotic individual.

To assist in determining the various conditions present and symptoms referable to the eyes, I have taken, at random, one hundred case records from my practice. The ages of these students varied from 5 to 20 years, and they attended all varieties of schools, from the district school in the country to those having the regular courses at college. The cards were not selected with any idea, except that the patient should be attending school and under 21 years of age. Sixty-two were girls and thirty-eight were boys. Twenty out of the hundred came especially for treatment of accidents and inflammatory disorders. Vision, using both eyes, was found to be normal in forty-seven, to which fact I wish to call your attention especially, as I find many physicians, as well as patients, consider that the ability to see well is an evidence of the absence of eye-strain.

Headache was present in twenty-six patients, without their complaining of the eyes paining. In twenty-six patients, also, pain was observed to be present in the eyes, without reference to the question of headache. In twenty-four, complaint was made of both headache and eye pain. The headaches were mostly frontal, next in frequency was pain in the temple. In some, headache was present at the vertex, in others at the occiput, and, in a few, general headache was complained of. Pain in the eyes and head is apt to develop within a short time after beginning to use the eyes for close work, though sometimes it will occur in the morning after overtaxing the eyes the night before.

One patient tells me that, after numerous tests, he has learned that headache always develops if he does not put on his glasses within three or four minutes after opening his eyes in the morning. I can not say just how many of these patients were relieved of headache from wearing lenses to correct the eye-strain, but I am certain, from the history in those I did see subsequently, and from the tendency to return if failure to get relief was observed, that a large percentage were relieved of their headaches and were enabled to continue the use of their eyes with comfort.

In thirty-five there was lack of balance or equilibrium in the eye muscles of one or more degrees. In a large majority of these, there was a tendency for the eye to turn in, due primarily to the error of refraction present. In four, strabismus was present, which was Nature's occasional method of relieving a patient from the disturbing influences of abnormal refraction, or difference in acuity of vision in the two eyes. In seven, the line of vision of one eye tended above its fellow, causing, usually, a

tilting of the head to bring the lines of vision upon the same plane. This condition, called hyperphoria, is a prolific source of eye-strain. The smaller amounts of this trouble are relieved by wearing, in combination with the lenses correcting the refraction, prisms with the base placed either up or down. The larger amounts of deviation require either tenotomy or advancement of the muscle to secure the proper balance.

The errors of refraction found in those examined were: Hyperopia (farsightedness), 5; hyperopic astigmatism, 10; compound hyperopic astigmatism, 63; myopia, 1; myopic astigmatism, 3; compound myopic astigmatism, 8. The refraction of one eye did not correspond with that of its fellow in fifty-four cases, while the refraction was the same, in each eye, in twenty-six of those examined. Where the refraction of the two eyes differ, there is greater liability of increased eye-strain on that account.

You will notice that astigmatism plays a very important rôle, at least two-thirds of the entire number showing a difference in the refraction of one meridian and that at right angles to it in an individual eye. Both near vision and distance vision is but seldom continually normal in astigmatic eyes. It may be possible, by forcing the accommodation or by partly closing the lids, so to make pressure on the cornea as to neutralize, temporarily, the abnormal curve of the eyeball and thus improve the vision. In this manner, latent astigmatism is shown. The best vision obtainable by proper lenses is frequently, I might say usually, better than that indicated as normal by the ordinary charts used in testing vision. There is a great variation in the size and shape of all the organs of the body, and they frequently differ from the typical or normal. The eye is no exception to this rule. If we are born with abnormal eyes, or have eyes that differ from each other, we learn to correct this, as we learn to see, by training certain muscles to certain duties. The error is always there, however, and vision is never clear without the extra effort. Unconsciously the effort is always made to give us clearly defined visual impression. Where the curve of the cornea is uniform, the muscle of accommodation can usually produce clearly defined visual impressions, but where it is not uniform continual effort is made in the adjustment to improve the vision, and this repeated time after time is the cause of eye-strain. Those with normal eyes, in good health, can use them almost continuously for close work, without a thought of discomfort or pain, but even with good vision abnormal eyes will get tired and give trouble with a moderate amount of work. The normal eye rests when looking beyond twenty feet, but the abnormal eye must always be adjusted, by the expenditure of nerve force and muscular effort, when looking either far or near.

With good health and a stable nervous system this constant waste of nervous energy may not be noticed. Overwork, worry and illness may make such inroads on the reserve supply of nervous energy that there is little to spare for the continuous drain made necessary by defective eyes. We demand clear vision, so the shortage of nerve force may be made manifest away from the eyes, possibly in the development of insomnia,

irritability, nervousness, nausea, vertigo and nervous dyspepsia and many other distressing symptoms.

It is interesting, and surprising, to learn what relief comes to some patients, who have suffered for many years, when they arrive at the age of presbyopia, in the vicinity of 45 years. At this time, owing to changes in the lens, the ciliary muscle ceases to be active and, for this reason, the patient gets relief from various nervous symptoms, and especially from sick headache. Also, for the same reason, distant vision will be dim and the patient will accept lenses which heretofore he refused. At this time, also, the physician who has previously estimated the refraction, both without and with a cycloplegic, is oftentimes surprised at the amount of hyperopia and hyperopic astigmatism which was latent and which becomes manifest with the full relaxation of the ciliary muscle.

The relation of eye-strain to the pupils' work is a branch of the subject assigned me that could better be answered by the pedagogue. However, by numerous inquiries, I find there is a very direct and important relation. Eye-strain, by its direct effect on the general health, is apt to cause irritability, restlessness, inattention and those disorders resulting from nervous exhaustion. All of these would make for poor and unsatisfactory work. Cohn, Risley, Randall, Oliver, Allport and many others have done a most important work in showing the relation of improper school hygiene and its deleterious effect on the pupils' eyes. There is a tendency to develop myopia, and, when myopia is present, to cause an increase of it. This is, then, a diseased condition, and, without proper care, is apt to lead to serious results in the future. This condition is due to uncorrected eye-strain, improper light, overcrowding, impure air, etc. The conclusions drawn by Dr. Risley, after exhaustive study of this phase of this subject, are: 1. The schools can not be held solely responsible for the harm which befalls the eyes of the school children during the educational process, since it has been shown that a very large percentage of the children enter the schools with congenitally defective eyes. This conclusion is strengthened by the fact that these defective eyes have been shown to be especially liable to injury from use, while the model or emmetropic eye, most nearly approaching the ideal state of refraction, enjoys the highest acuity of vision, is comparatively free from pain, and maintain a nearly uniform percentage in all the grades of school life.

2. In the light of the preceding conclusion, it is highly important that every child seeking to enter the schools should be subjected to a systematic examination as to the state of vision, and, where this is found defective, the parents should be notified and advised of the probable harm which will result from the school work, if professional advice is not secured.

3. The skilful correction of the errors of refraction in our children's eyes by glasses would go far to arrest the acquisition of near-sight and its attending pathologic conditions. It would also prevent the asthenopia which precedes and accompanies the increase of refraction.

4. The very great frequency of these congenital anomalies should stimulate our school authorities to the adoption of every sanitary precaution and to the most scrupulous avoidance of faulty educational methods.

323 West State Street.

MODERN CONCEPTIONS OF THE METABOLISM OF THE DIABETIC.*

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CHICAGO.

Diabetes, as all authorities agree, is an essentially chronic disease in which the power of the organism to split up glucose is pathologically diminished or, accepting a recent definition of von Noorden, is a chronic disease in which glucose is excreted in the urine. It goes without saying that we exclude from discussion the question of normal glycosuria, which is not recognizable by the usual clinical methods, just as we rule out of the considerations all conditions in which the metabolic disorder has to do with the improper handling of levulose, maltose, lactose, pentose, etc., by the organism. Likewise, we do not regard as diabetic those conditions in which a glycosuria follows the intake of large quantities of glucose or of starchy foods (the so-called alimentary glycosuria), or those disorders of the liver in which a glycosuria follows as a result of impaired hepatic function, especially when the administration of levulose is followed by a levulosuria. This latter condition is the glycosuria of hepatic insufficiency and differs, in many respects, from the true diabetic type in which the glycogenic function is impaired, but in which levulose is handled by the liver in a different way.

GLYCOSURIA.

According to the older writers, the normal blood contains 3 to 4 P. M. of glucose. With better and more accurate methods of examination, it has been found that 1 P. M. is more nearly the true glucose content. Just as is doubtless the case with the proteids, the carbohydrates exist in the blood, not in the free state, but in combination with some as yet unknown bodies. The discovery of Jecorin, by Drechsel, shows us that such compounds may exist. Also, it will be recalled, Semmola assumed the combination, in normal blood, of the proteids with other substances, and recently Geelmuyden has advanced the hypothesis of a pairing of the acetone bodies with glycuronic acid in the same way as various glycuronates are formed in the metabolism of certain drugs. This idea of Geelmuyden is, however, open to objections on purely chemical grounds, while the other hypotheses have a firm basis and will, doubtless, be proven ere long.

The condition of glycosuria must occur when the amount of sugar in the blood exceeds the normal limit, providing no excessive demand is being made on the carbohydrates by the system. In other words, we must have, as antecedent to a glycosuria, a hyperglycemia. The idea of Kolisch, that the glycosuria was dependent on an insufficient fixation of the sugar in the blood is not, at present, generally accepted, inasmuch as the non-existence of glucose in the free state has not been definitely established. Increased permeability of the kidney has also been considered as explaining the glycosuria of diabetes. It is doubtful whether such a condition exists, as the mass of clinical evidence goes to show that

* Read before the Section on Medicine of the Illinois State Medical Society, at Springfield, May 15-17, 1906.

the kidneys are not, in true diabetes, more permeable than normally. However, in the glycosuria following the administration of phloridzin, a hypoglycemia is observed, so that we are forced to the conclusion that this condition is of renal origin in such experimental cases. In certain cases, patients, showing symptoms and signs of nephritis, suddenly manifest glycosuria, to which complex has been given the name "renal diabetes." We must, however, remain dubious regarding the relation of this glycosuria to increased permeability of the kidney. As von Noorden says: "The doctrine of renal diabetes remains in the region of hypothesis." As a hyperglycemia occurs in all cases of spontaneous or experimental glycosuria, with exception of phloridzin diabetes, we must assume that this condition plays some rôle in the causation of the glycosuria.

IN THE NON-DIABETIC.

A hyperglycemia, with resulting glycosuria, may follow enteric, hepatic, pancreatic, muscular and nervous disorders; but the glycosuria, in all these cases, is not of the true diabetic type. From the days of Bernard's "piqûre," nervous influences have been so much considered in the etiology of diabetes that Hoffman was led to formulate his theory of a special neurogenous type of this disease. The point must, however, be considered that puncture of the floor of the fourth ventricle as well as other nervous influences which affect the activity of the liver cause a glycosuria only so long as the supply of glycogen in the organs lasts. That nervous factors enter into the causation of certain forms of alimentary glycosuria, as observed in neurasthenia and hysteria, for instance, can not be doubted, yet the true chronic diabetic glycosuria is evidently far beyond the entire control of nervous influences. Different clinical manifestations of a disease do not necessarily imply a difference in the nature of the disease.

The ordinary alimentary glycosuria is the resultant of an excess of carbohydrates in the diet. The glucose, carried to the liver by the portal vein, is in too large an amount to be converted into glycogen. Some passes through unchanged and sufficient time is not given to permit of its transformation into fat either in the liver or elsewhere. A hyperglycemia, with secondary glycosuria, occurs as a result of these abnormalities. The question of the individual tolerance for carbohydrates, as well as the consideration of the kind of carbohydrate ingested, must be remembered, as we know that wide variations exist in these factors. However, we observe in the alimentary type following the infectious diseases, that other than direct hepatic factors are at work. Disturbances of the functions of the pancreas, especially due to the activity of the toxins of the disease in question, influence the glycogen-storing capacity of the liver. The combined result of the primary pancreatic and the secondary hepatic disturbance is a glycosuria. In these cases the glycosuria is originally traceable to a disturbance in the proper handling of the carbohydrate ingested, but may later merge into a condition of disordered tissue metabolism showing the characteristics of a true diabetes. That such cases are not due entirely to hepatic insufficiency is shown by the fact that administration of levulose is not followed by an increase in the

glycosuria or an excretion of levulose, as is so well known to be the case in the glycosuria of hepatic insufficiency.

IN THE DIABETIC.

When we consider the hyperglycemia and glycosuria of a true diabetic, we find that the glucose, coming from the foodstuffs or the breaking down of proteids and fats of the tissues, is not handled as in the non-diabetic. The cells are not in condition to utilize the glucose circulating in excess in the blood, but can use it when the power of intermediate polymerization into glycogen exists. The cardinal point in the causation of the glycosuria is the defective formation of glycogen in the liver. Although excessive production of the glucose has been stated to be the cause of the hyperglycemia and glycosuria, we must rule out this factor as far as a primary overproduction is concerned. Owing to the inability of the cells to utilize the glucose as such, carbohydrate hunger of the cells occurs, calling forth new formation of sugar from the glycogen present. When this source is exhausted, as happens early in diabetes, the proteids and fats are brought into the field of action. This is a true secondary overproduction of sugar and is a consequence of the defective formation of glycogen. The diabetic organism shows a very low glycogen content, which proves the point of defective formation of this substance, although this fact has been interpreted as meaning an excessive production of sugar. Likewise this defective glycogen formation may be taken as the cause of the lessened oxidation of glucose observed in diabetes. We should expect that increased muscular effort would use up the excessive carbohydrate circulating in the blood, if the only factor disturbed were the production and storing of the glycogen. Such is, however, not the case, as has been shown by many experiments, simply because the cells are not able to utilize the free glucose, but can do so only after it has entered into firm chemical combination with the protoplasm of the cell. This function the carbohydrates can not perform where the power of forming glycogen is lost. In those cases in which the glycogen formation is reduced but not abolished, a certain reduction of the glycosuria is possible by increased muscular effort, but in the grave cases such a reduction is not observed, nay, even the reverse may obtain. That the glucose, as such, is not utilized by the diabetic is likewise shown by the low respiratory quotient observed even after carbohydrates are given in large amounts. The work of Mohr, Baumgarten and others seems to show that the oxidation of glucose is at fault in so far as the first splitting of the molecule is concerned, for the gluconic, glycuronic, saccharic and other acids are handled by the diabetic quite as well as by the non-diabetic.

The diabetic is able to utilize the isomeric sugar, levulose, for a certain length of time, as Bouchard and Kulz have shown. Glycogen is readily formed from levulose, even in animals with extirpated pancreas, and a glycosuria is lessened after its use. After a time the diabetic loses the power of utilizing this carbohydrate and the glycosuria is increased as a result. The sugar excreted after use of levulose by the diabetic is, for the most part, glucose. If levulose appears along with glucose, the prog-

nosis becomes very grave, as this usually indicates the entire breaking down of carbohydrate assimilation.

If, then, glycosuria be a result of the inability of the diabetic organism to utilize glucose as such, and this inability be due to defective formation of glycogen, what brings about this latter condition? Following the earlier ideas of Frerichs and Lancereaux and the experimental evidence of von Mering and Minkowski, we now believe that lesions of the pancreas are intimately associated with the conditions which obtain in diabetes. The islands of Langerhans have been considered as having more to do with the causation of the symptomatology than the other parts of the pancreas. Their influence is, however, uncertain, as many cases of diabetes show no lesion in these islands and many show no abnormality in the pancreas itself. It is more than probable that the pancreatic influence is more subtle than the naked eye or microscope can detect and hence no observable changes are found. Chemical influences are known to be at work in all lesions of the pancreas; hence it is rational to assume that such influences may be present without pathologic lesions being manifest.

Von Mering and Minkowski, observing that extirpation of the pancreas brought on the symptomatology of diabetes, assumed that the pancreas normally pours out an internal secretion, which is concerned with the elaboration of sugar. Of course, in extirpation or marked lesion of the pancreas, this secretion fails. Lepine believed that a glycolytic ferment was lessened after removal of the pancreas or as a result of lesions of this organ. Cohnheim showed that muscle-extracts act as activators of the pancreatic extract in its glycolytic action. Embden and Claus later showed that this result was due to the infection of the extract and that no such activation was observed when the muscle extract was kept sterile. We are, therefore, no nearer the solution of the problem at the present time than at the time of the discovery of the influence of pancreas extirpation. Recently von Noorden advanced the view that either a ferment having to do with the polymerization of sugar into glycogen or an antiferment which prevents too rapid destruction of glycogen may be given to the blood by the pancreas. Lack of either of these principles would lead to the conditions observed in diabetes.

THE ACETONE BODIES.

The most ominous symptom or condition of diabetes is not the excretion of glucose, but the elimination of the acetone bodies observed in most cases at some time during their course. We must consider the B-oxybutyric acid, diacetic acid and acetone as forming a series in which the former is the one from which the other members are derived by oxidation. The condition arising from a surcharging of the blood with these bodies is known as acidosis. For a long time it was supposed that carbohydrates were not only accountable for the glycosuria, but also for the acetonuria and acidosis noted in diabetes. In the advance of pathologic chemistry, it has been shown that, instead of causing these latter symptoms and conditions, the carbohydrates in reality lessened them. This can be shown by the administration of a definite amount of sugar, especially in

the milder types of the disease, to a patient, from whose diet sugars have been previously excluded. The omission of sugars from the diet forces the organism to utilize its proteid and fat material and thus gives rise to an accumulation of nitrogenous and fatty metabolic products as well as to an increase in the acids of the body fluids. In this way an acidosis already present would be increased in intensity. If the carbohydrate-free diet be continued for some time, a readjustment takes place and the acetonuria gradually diminishes, reaching the normal point, as is instanced by the fact that certain races show no acetonuria, even though on absolutely carbohydrate-free diet.

With regard to the proteids as the mother substances of these bodies, we must admit that their influence is, to some extent, a double one. In the first place, proteids tend to diminish the acetonuria on account of their carbohydrate content, those proteids containing the highest amount of carbohydrate groups not necessarily exerting the greatest effect either on this condition or on the glycosuria. With a diet excessive in proteid, the influence is, however, not of this sort. The sulphuric and phosphoric acids, as well as the small amounts of acetone bodies, formed by the hydrolysis of the proteids, tend to increase an existing acidosis, while the excessive carbohydrate formed (45 grams from 100 grams of proteid) by the splitting of these proteids may greatly increase an existing glycosuria. These points, together with the fact that the products of nitrogenous metabolism, may greatly increase the osmotic equivalent of the blood and thus lead to disordered cell function, show us that proteids can not be advantageous as an exclusive diet in diabetes. As is well known, the nitrogenous excretion is much more marked in a diabetic than in a non-diabetic, owing to several factors. In the first place, the diabetic consumes more proteid than the normal because his diet is limited as regards carbohydrates and must be made up to a requisite caloric value by proteid and fat. Secondly, owing to the lack of the proteid-sparing function of the carbohydrates, excessive proteid is broken down and elaborated in order to furnish a portion of the energy necessary to maintain the body functions. It must, however, be said that the diabetic protects himself, for a time, from the unusual loss of proteid by the utilization of fat.

Concerning the fats, it is to be recalled that, although formerly accredited with no power of influencing the acetonuria, to-day they are regarded as directly affecting this condition to a great extent. This is true of the fatty acids, especially the lower members, and not of the neutral fats. If the contention of Castle and Loevenhart be true, that a reversible action of the lipase converts the fatty acids and glycerin formed by a previous hydrolysis, again into neutral fats, then the influence of fats on the acidosis is variable, or else we must assume a lack of lipase in the cells of the diabetic. We know that the fatty acids belong to the ketoplastic group, yet, as Borchardt has recently shown in Waldvogel's laboratory, this ketoplastic action is, doubtless, due to the union of the fatty acids with glycerin, thus withdrawing from the system the anti-ketoplastic body, glycerin, and enabling the remaining fatty acids to exert their influence on the formation of the acetone bodies. Fats do

not increase an existing glycosuria, as many experiments have shown, yet we must grant that a formation of sugar from fat does take place. von Noorden speaks of a "facultative formation of sugar out of fat," referring to the fact that the demand for sugar may become so great that this source is called upon to furnish its quota of carbohydrate. We must also remember that the synthesis of fat from the disintegrated carbohydrate is much affected in diabetes. Were this not the case, a large part of the sugar, reaching the blood as such, would be synthesized by the fat-forming cells and the glycosuria would be diminished. Conceiving this latter function to be normal while the former is abnormal, we can readily see the close relationship between obesity and later diabetes. With an excessive diet of fat, no more fat is oxidized than when the diet is low in fat. In the latter case, the body fat is utilized to furnish the difference, while in the former the excess is deposited in the usual fat depositories.

While acetone bodies appear in the urine and expired air of patients suffering from diseases other than diabetes, yet the amounts excreted are small as compared with those in diabetes. As Mohr has shown, these cases can all be traceable to the limitation of carbohydrates in the diet. Although these bodies arise from the fatty acids, for the most part, they can be shown in the urine and expired air only when the system has, at the same time, little chance of utilizing carbohydrates either on account of disease or diet. The excretion of the acetone bodies is little influenced by the amount of fat in the food in the normal, providing the carbohydrate content of the diet is good.

COMA DIABETICUM.

This complex, originally described by Kussmaul, is to-day generally conceded to be due to an intoxication with the acetone bodies; in other words, is an acidosis. It must be remembered that the less acetone and the more diacetic and B-oxybutyric acid are excreted so much the more doubtful becomes the prognosis. There are cases in which practically no acetone, a slight amount of diacetic acid and large amounts of B-oxybutyric acid are excreted. These are the cases which are more likely to manifest sudden symptoms of coma, inasmuch as they indicate a very low condition of metabolic activity and a tendency to marked intoxication. A convenient factor for judging of the extent of the excretion of the acetone bodies is the ammonia excretion. In the metabolism we find that any increase of acid above the amount easily satisfied by the preformed fixed alkali is combined at once with the ammonia liberated by the hydrolysis of the proteid molecule. This goes on, up to a certain limit, as only a portion of the nitrogen can be set free as ammonia. At this limit, the fixed alkalies must again be called upon to neutralize the excess of acid, as free acid rarely if ever appears in the urine. The result of this combination is that ammonia is increased and the urea diminishes to such an extent that the ammonia may reach even 30 per cent. of the total nitrogen of the urine. Later we may find after an enormous increase in the ammonia excretion the calcium and magnesium content of the urine becoming very high, as Gerhardt and Schlesinger have shown. It is,

therefore, easy to understand that the alkalinity of the blood is diminished by all this withdrawal of alkali. According to Naunyn, this is the principal factor in the causation of the diabetic coma. As Herter has shown that B-oxybutyric acid and its salts are toxic, we must assume that the specific action of this acid plays a rôle in addition to the general acidosis. It is possible, as von Noorden suggests, that other as yet unknown substances may aid in producing this complex.

Many other factors, such as the purin metabolism, the osmotic properties of the blood, the lipemia, etc., must be left untouched owing to lack of time. In closing this brief outline of diabetic metabolism, I wish to make the point that each case of diabetes is an individual one; that is, general rules apply only to a certain extent, special ones being necessary to explain certain peculiarities and reactions to diet and treatment. The diabetic is a never-failing source of investigation and much that is now dark may, we hope, be cleared up by persistent, close and accurate observation of any and all deviations noted.

100 State Street.

THE MODERN DINING CAR.*

M. Cavana, M.D.

Ex-President of the New York State Association of Railway Surgeons; First Vice-President of the American Association of Railway Surgeons.

ONEIDA, N. Y.

In this age of marvelous progress, so conspicuous in its contributions to human ease and entertainment, the American railway may be justly accredited with its share of popular achievements. Among the many developments in railway circles during the last quarter of the nineteenth century, none has been more favorably received by the great traveling public, than the "restaurant on wheels," the luxurious dining car. When we reflect upon the crude methods of the past, and recall the partially masticated lunch, so much more conspicuous in quantity than in quality and variety, which was forced upon the hungry tourist during the proverbial "ten minutes for refreshments," we enthusiastically contrast the beautiful compartments and artistic furnishings; the elaborate and tempting menu, comprising choice food products of the world; the superb service by expert attendants in surroundings of immaculate cleanliness, which are enjoyed by the traveler of to-day in the up-to-date dining car. As every beautiful organism has its skeleton interior, so the sumptuous dining car of to-day has its regretable criticisms, which constitute conditions of such importance to our railway companies, of so grave liability to the traveling public, and of such interest to the professional men of our chosen specialty, as, in our opinion, to justify the submission of the subject to the consideration of this association.

Toxicosis from infected foods is so frequently encountered in the medical practice of to-day that it has gained a place in the long list of

* Read at the Annual Meeting of the Association of Railway Surgeons, held at Chicago, Oct. 17-19, 1906.

human ailments of especial prominence. Day after day we encounter and read of violent attacks of illness resulting from food poisons, many of which seizures prove serious and some fatal, yet, up to this late date, practically nothing has been accomplished by either our legislatures or the medical profession toward remedying the causes and protecting the people from this unmistakably growing evil.

The writer's data for the three years ending Sept. 1, 1906, prove that over 80 per cent. of the Central New York cases of toxicosis resulted from the eating of the poultry foods of the every-day markets. Reflection upon this fact very naturally leads to the inquiry, Why so great an amount of poultry infection? In reply, let me say with all possible emphasis that we are convinced that it is directly due to the fact that practically all of the slaughtered poultry stock of the nation's markets is supplied from the cold storage warehouses of the cities, where the stock is stored for years, in its filthy undrawn state. During the past two sessions of the New York legislature, unsuccessful efforts were made to secure the enactment of a law that would effectually correct the existing dangerous practices of the cold storage industry, and, at a hearing before the state assembly committee on the proposed law in 1905, the information was gained, through the admission of one of the cold storage warehouse owners, that poultry was kept in storage for three and four years in the undrawn state, and then sold for food. In fact, one of the managers presented the assembly committee with an undrawn capon which, he claimed, had been stored for four years since slaughter. In the dining cars and restaurants of most of our railroad lines, poultry comprises one of the principal meat foods of their stocks, and spring chicken is generally quoted upon their bills of fare for every month of the year.

Dr. Wiley, the Chief Government Food Chemist at Washington, in the Boston *Journal* of last November, states: "I asked for spring chicken in a dining car on one of our best railroads the other day, and the waiter brought me what he said was spring chicken, but of what spring? The chicken was not fit for any human being to eat. I called the superintendent of the dining service and said to him, 'Why do you serve such chicken as this? You know it has been in cold storage three or four years, is *passe*, and is a menace to the health of any person who eats it.' 'What do you expect for a dollar?' was the only answer I got out of him." Dr. Wiley further states: "I relate this chicken story to illustrate the point that much of the poultry that is served is not fit for food."

In October, 1904, Mr. M. H. Hubbard, architect of Utica, N. Y., became suddenly and seriously ill after a dining car meal at which he ate heartily of turkey. Becoming too ill to proceed upon his journey, he left the train for a hotel, where he secured medical attendance, and, after six days' illness, resumed his journey. Mr. L. B. Cheesebrough, proprietor of the St. Charles Hotel, at Sylvan Beach, N. Y., ordered from a certain hotel supply company of New York City, in August, 1904, a stock of poultry for his hotel kitchen. The shipment arrived on August 9 in the usual undrawn condition. On the following day Mr.

Cheesebrough ate of a broiled spring chicken at his evening dinner and also partook of the stock at a late lunch of the same evening. Early on the following morning the evidences of severe toxicosis were manifested, and, after a week's illness, the case terminated fatally. This patient was an intimate friend and consequently the case came under our professional care. Its distressing history and sad termination lead us to the conviction that the time had arrived when the profession and world should be made aware of the menaces to health and life resulting from the practices of the poultry and game dealers, of storing their stocks for sufficiently long periods, in the undrawn condition, as to render them fatally poisonous.

A long list of other cases, victims of poultry poisoning, might be submitted, but we withhold further mention of instances, desiring to devote the balance of our time to a brief consideration of the bacteriologic side of the subject; we, therefore, submit a somewhat concise review of our tests and experiments made upon one hundred specimens of cold storage undrawn poultry, which were purchased from the retail counters of meat markets in certain New York State cities, where the specimens were exposed for sale as food. Bacterial cultures made from the breasts and legs of the one hundred specimens proved the presence and thorough permeation of the tissues in each specimen, with the various groups of intestinal germs, some tests showing no less than eleven distinct groups in one poultry specimen. Among the varieties of pathogenic bacteria identified was the *Bacillus coli communis*, the *Staphylococcus pyogenes aureus*, the *Bacillus proteus vulgaris* and the *Streptococcus pyogenes*. Previous tests of intestinal matter taken from the entrails of recently slaughtered fowls revealed the presence of these latter germs in great abundance in the intestinal canal of every fowl examined, and their discovery in the remote tissues of the undrawn cold storage specimens proves unmistakably that their source was from the alimentary canal, and that their permeation of the tissues was the direct result of the retention of the intestinal tract and its contents in the sealed abdominal cavity of the poultry carcasses.

Growers of poultry will support us in the assertion that the ducks and hens of the barnyard are the scavengers of the farm. They are constantly picking over the soil, the farm garbage heaps and other bacterial hotbeds, and no accretion or mass of decaying matter ever becomes too repulsive for poultry food, especially for that of hens. In our bacteriologic studies, all of the cultures were made from the eatable tissues of the various specimens, and with the most thorough aseptic precautions. The *Bacillus coli communis* was found in 100 per cent., or every specimen tested; the *Bacillus proteus vulgaris* in 6 per cent.; the *Staphylococcus pyogenes aureus* in 20 per cent., and the *Streptococcus pyogenes* in 65 per cent. of the one hundred examinations.

The cold storage plant owners of New York City inform us that their poultry stocks are collected from all parts of the country, even as far distant as the States of Texas, Louisiana and Florida. Shipments are made by rail and steamship, and cover transit periods of several days

before reaching the cold storage atmospheres of the storage warehouses. After slaughter, the feathers are removed and the carcass packed in barrels without further dressing. The head, feet and legs, as well as the craw of partially digested food, the decomposing livers, lungs and intestines with their filthy contents all combine to make valuable weight, and are, therefore, left in the sealed cavities of the fowls, framing conditions which force the general infection of the tissues by the flagellated or rapidly swimming intestinal bacteria.

To determine the activity of these germs and the period required for their permeation of the tissues in the slaughtered undrawn fowl, we caused to be made a series of experiments, the results of which justify the belief that a great percentage of the infected poultry and game stock in storage became so infected before reaching the low temperatures of the storage warehouses. In our first experiment, a healthy hen was slaughtered and stored in its undrawn or original undressed condition in the temperature of the ordinary refrigerator, that of plus 40 degrees F. Cultures from twelve-hour tests proved that at the end of the ninety-sixth hour after slaughter the groups of intestinal bacteria had invaded the abdominal walls and the tissue outside of the abdominal cavity. At the ninth twelve-hour test, or four and one-half days after slaughter, the tissues of the breast and legs of the specimen were found to be thoroughly invaded, and vigorous cultures therefrom of the *Bacillus coli communis, Staphylococcus* and *Streptococcus* were made and their identification conclusively established.

Another similarly healthy, recently slaughtered fowl was stored undrawn in the temperature of the ordinary autumn season of the southern states, that of plus 70 degrees F. In this experiment, the intestinal bacteria were found in the tissues outside of the abdominal cavity at the end of the eighteenth hour, and thorough permeation of the breast and legs of the fowl was found to exist at the end of the twenty-seventh hour, or one and one-eighth days after slaughter.

The third experiment dealt with a slaughtered specimen that was properly dressed, or divested of its entire thoracic and abdominal viscera, within thirty minutes after slaughter. The carcass was then stored in a temperature of 40 degrees, as was our first experimental specimen, and bacterial tests were made every twelve hours, as in the previous experiments, for twenty-eight days, and no traces of the intestinal groups of bacteria were discovered in any portion of the fowl, even up to the fifty-sixth test.

Our fourth experiment consisted of storing a recently slaughtered and properly dressed and cleaned fowl in a temperature of 70 degrees and submitting it to semi-daily tests for fourteen days. Every test proved negative, and no traces of any of the intestinal groups of bacteria were found in any portion of the tissues, even up to the twenty-eighth test. Of course, the zymogenic (fermentative) and the saprogenic (putrefactive) groups were found upon the skin and in the cavities of these specimens, but, being non-pathogenic, they are consequently harmless in food products.

Of the colon bacillus, McFarland, in his latest work on "Pathogenic Bacteria," states that it is found normally in the alimentary canal of all animals and fowls; that it is provided with flagella, and is actively motile, or a rapid swimmer; that it begins to penetrate the intestinal tissues almost immediately after death; that it is so minute that four of the bacilli can pass abreast through the smallest pore of the human body; that it has been met with in puerperal fever, endocarditis, urethritis, appendicitis, the nephritis of scarlatina and in meningitis, and seems to be the pathogenic agent of the greater number of summer infantile diarrheas; that its toxin may be heated to a very high temperature without injuring its poisonous nature; that its virulence is increased by passage through animals; that it is resistant to antiseptics and will grow in culture media containing from 1 to 2 per cent. of carbolic acid. This is the germ that has contaminated the waters adjacent to New York City through the city's sewage, infecting the shell fish which had been deposited therein for bleaching, and is directly responsible for much of the cases of oyster poisoning of modern times. Of the *Staphylococcus pyogenes*, the same author relates that it is a dangerous and often deadly organism; that it is found in a great majority of furuncles, carbuncles, abscesses and cases of osteomyelitis, ulcerative endocarditis and interstitial nephritis. Of the *Bacillus proteus*, he states that it is found in decomposing animal infusions, is actively motile, and has been secured in cultures from wound and puerperal affections, endometritis, pleurisy and purulent peritonitis; that, like the *Bacillus coli*, it invades the tissues after death; that at times it grows abundantly in the urine, and may produce serious bladder and kidney inflammation. Of the fourth important germ found in our tests of the undrawn poultry, the *Streptococcus*, the author states that this organism is highly virulent; that it has been found in erysipelas, ulcerative endocarditis, periostitis, otitis, emphysema, pneumonia, lymphangitis, phlegmons, puerperal endometritis and meningitis; that in man it is usually associated with active forms of suppuration and sepsis; that the relation of this germ to diphtheria is of especial interest, on account of the number of cases where no diphtheria bacilli can be found, and which seemed to be caused by the streptococcus alone, and are, therefore, not controllable by the diphtheria antitoxic serum. This germ has no flagella and in consequence is not motile, yet it was found in 65 per cent. of our tests. Our belief is that the germ was conveyed from the intestines of the fowl, to its remote soft tissues, by adhesive association with the *Bacillus coli* and the *Proteus*, both of which, as previously stated, are actively motile.

It is the well-established practice of health boards, when contagious diseases and epidemics appear, to search for the sources of the contagion; and the water supply naturally becomes the first object of investigation, and the discovery of sewage contamination is always accepted as sufficient proof as to the source of the disease, and, when we consider the fact that such sewage contamination of water consists simply of its impregnation with the various classes of intestinal germs, which we find in the eatable tissues of the stored stock of undrawn quail, duck,

turkey, grouse and poultry of the general markets, which is so lavishly served in our dining cars, hotels and restaurants, and so generally the chief viand at the Sunday and holiday dinners of our homes, we feel that all fair-minded members of our profession will agree with us that the time has arrived for united and energetic action toward the further exposure and effective correction of those practices which are responsible for existing conditions.

The records of the New York State Board of Health show that the death rate in that state for the year 1900 was 15.7 per thousand of the state's entire population, and that for the year 1905 the death rate had advanced to 16.2 per thousand of the population, an increase of one death for every two thousand of the state's 8,067,308 inhabitants over the records of 1900. Accepting as practically correct the estimate that each death represents 1 per cent. of the number of cases of illness treated, we face the surprising conclusion that, during the year 1905, the increased number of the treated cases of illness in New York State, over that of five years previous, amounted to over 400,000, and the deaths to over 4,000. When we contemplate the improvements in treatment and means for combating disease, the advancement in pharmacy, chemistry and electricity, the improved medical compounds, antitoxic serums and the long list of new scientifically prepared remedies, the advancements in the required qualifications of our professional graduates and nurses, the perfection and life-saving results of modern surgery, and note that the records of fatality show unmistakable increases over the less advantagious conditions of former periods, we are forced to the conclusion that there is yet a growing source of human infection, disease and death not yet combated. Can any fair mind entertain the slightest doubt that this growing source is the direct result of the unclean practices of the modern cold storage industry?

The victims of poultry and game food toxicosis comprise two distinct classes: First, those who eat sparingly of the infected foods and escape any immediate serious consequences. While we may reasonably conclude that every quantity of intestinal bacteria, however minute, which becomes incorporated into the human organism must leave its trace, and, to a greater or less degree, shatter the health-protecting armors of Nature, we have this broad field yet to explore, and, consequently, are not in possession of reliable data, though we feel convinced that this class includes a large percentage of the sufferers from enteric and nephritic diseases, internal abscesses, and many of the other inflammatory and suppurative processes of the human structure.

The second class includes the susceptible subjects, possessors of insufficient resisting and recuperative powers, as children, the aged, the enfeebled. This class also includes those in vigorous health or otherwise, who have eaten heartily of or who have consumed large quantities of infected material. In fact, all of the known fatalities of our experience were of subjects in previously vigorous health, who had consumed large quantities of infected food at a single meal, or who had indulged in two successive meals of the material.

Unfortunately, the opportunities for special pathologic study in this

field have been very limited, as the fatal cases occurring under our observation could not be subjected to autopsy and such study, but our esteemed colleague, Dr. H. P. DeForest of New York City, has been better favored, and is in a position to supply the desired information. In a recent communication he announces a case of fatal toxicosis which occurred under his personal observation. The patient was a man who ate liberally of duck and soon after manifested pronounced evidences of poisoning and succumbed within a few days The cause of death, as reported by Dr. DeForest, and verified by his autopsy in the case, was "Suppurative Inflammation of the Thoracic Duct." Dr. DeForest is an especially capable scientist and is preparing a report of the case in detail for publication, which will prove of great interest to the profession and of value to the cause of pure and wholesome food legislation.

We are convinced that the time for serious consideration of the present cold storage methods and their health and life-destroying results is at hand. The protection of the railway dining car and the safety of its patrons and the general public, is the prize at stake. Will the eminent gentlemen of this association enlist in this all-important cause, and each put forth his best efforts in the procuring of such legislation in the several states of our government as will compel, by law, as thorough and complete dressing, cleaning and preparation of game and poultry for storage and the market, as is now practiced by the slaughterers of beef, pork and mutton, and thus safeguard the masses from the dangers to health and life, which must follow continued indifference toward this situation?

PROGNOSIS AND SURGICAL TREATMENT IN TRAUMATIC RUPTURES OF THE KIDNEY, URETERS AND BLADDER.*

WILLIAM FULLER, M.D.

CHICAGO.

Since the first nephrectomy for subcutaneous rupture of the kidney, which was performed by Studsgaart of Copenhagen in 1884, this part of renal surgery has gained some prominence; many of the now well-established procedures have done much to prolong life and preserve the function of these important organs. To accomplish a fair degree of success by surgical operations for injuries of the kidney and bladder, as much, if not more, depends upon the early and accurate diagnosis as on well applied surgical measures. The surgical treatment of these injuries will, of necessity, vary, depending on the kind and degree of damage inflicted. It is beyond question that many kidney lesions will heal when treated by the expectant plan alone, but that a large number of them thus treated will not do so is also certain. This is the experience of all surgeons, as statistics, a few of which I will give here, will abundantly substantiate.

In perhaps a rather larger per cent. of both kidney and bladder in-

* Read at the meeting of the Chicago Medical Society, Oct. 31, 1906.

juries, careful inquiry into the exact nature of the injury, a very critical analysis of all symptoms exhibited, and a painstaking physical examination will justify definite diagnostic conclusions. But, on the other hand, a class of renal injuries will be met with in which there are few or no symptoms; cases in which knowledge of the injury can not be obtained and in which no conclusions are justified. These are the cases which have hitherto contributed to such a high death rate and are responsible at the present time for a mortality much too great. For those who accept figures as evidence, a fair knowledge of the relative value of the different methods of treating renal and bladder injuries can be obtained by studying closely the following statistics: In Watson's[1] collection of 660 cases of subparietal injuries to the kidney, 273 were treated by the expectant plan, with 81 deaths; mortality, 30 per cent. Ninety-nine cases were treated by the so-called conservative operations, that is, operations other than nephrectomy, with seven deaths; mortality, 7.7 per cent. One hundred and fifteen cases were nephrectomized, with 25 deaths; mortality, 21.7 per cent.

These figures correspond with Sutter's[2] 211 cases and with the list of 490 cases collected by Delbet[3] and Riese.[4] Of Sutter's 211 cases, 100 were unoperated and 16 died; mortality, 16 per cent. Three hundred and twenty-seven of the cases collected by Delbet and Riese were unoperated, with 72 deaths; mortality, 22 per cent. The combined number of unoperated cases of the three collections was 427 cases, with 88 deaths; mortality, 20.6 per cent.

Of Sutter's cases, 58 were operated on by methods other than nephrectomy, 11 deaths; mortality, 18.9 per cent. Eighty-five cases of Delbet and Riese were operated on by the conservative method, with 10 deaths; mortality, 11.7 per cent. The total number of conservatively operated cases was 143; deaths 21; total mortality, 14.6 per cent. Nephrectomy was performed 78 times in Delbet and Riese's cases, with 14 deaths; mortality, 17.9 per cent. Fifty-three of Sutter's cases were thus operated with a death rate of 8; mortality, 15 per cent. The total number of the nephrectomized cases of the three observers was 131, deaths 22; mortality, 16.7 per cent. It will be seen that the expectant plan of treatment gave the highest mortality, or 20.6 per cent.; that the next highest death rate was in the nephrectomized cases, which was 16.7 per cent., and that the lowest mortality, 14.6 per cent., was obtained in cases treated by the conservative operation.

When these statistics are carefully reviewed, it will be seen that they are hardly fair to the nephrectomized cases, because mention is not made as to whether they were primary or secondary operations; and, as Keen has shown that secondary nephrectomies are followed by a mortality much higher (38 per cent. for secondary as compared to 20 per cent. for primary operations), objections may be raised against them. On the other hand, these figures are more than fair to the cases treated expectantly, or the unoperated cases, because of the possibility, indeed the probability, of many cases being included because they gave a history of an

1. Watson: Boston Med. and Surg. Journal, July 16, 1903.
2. Sutter: Zeitr. z. klin. Chir., 1905, vol. xlvii, pp. 349, 402.
3. Delbet: Ann. des Mal. des Org. Genito-urine Nos. 6 and 7, 1901.
4. Riese: Longenbeck's Archiv. für. klin. Chir., 71 Bd., Heft. 3.

injury and presented the symptoms of renal trauma, but which in reality were not kidney injuries. Histories of patients showing symptoms of renal lesions, such as hematuria, pain over the kidney region etc., are by no means conclusive proof that such cases properly belong to the class under discussion. Patients having sustained no injury may present practically all of the symptoms of a renal wound, while patients with serious injuries which have completely destroyed the kidney may not present a single symptom. Without an exploratory operation in these cases, no man is justified in expressing a positive opinion regarding them. In January, 1905, a patient, who received a gunshot wound presenting practically all the symptoms of a renal injury, was operated by the writer. The kidney was found practically unharmed, excepting a very small wound of the cortex made by the transit of the bullet.

A review of the work done in renal surgery during the past ten years leaves no doubt in the mind of the surgeon that the death rate in this branch of surgery should be greatly lowered. How is this to be accomplished? Not, perhaps, by any improvement in the technic of the well-understood operative procedures, but by some means whereby these steps may be executed much earlier than has been or is even now the custom. Valuable time is often lost, owing to the efforts made in attempting to make the correct diagnosis in cases without typical symptoms. Such instances are only too common, as cases like those presented by Bristow[5] and one reported by the writer[6] a year ago before this society will show. One of Bristow's cases did not present one subjective symptom of renal injury, but a laparotomy was done for a supposed rupture of the liver. The operation disclosed an absence of any intraperitoneal injury, but revealed a retroperitoneal condition which proved, through a loin incision, to be an irreparably damaged kidney. The organ was removed and the patient recovered. The second case, which was also misleading, presented a single subjective symptom, namely, a constant desire to urinate. The patient died in a few hours from hemorrhage, unoperated. In my own case, the symptoms were not characteristic of serious renal injury, although the operation showed a kidney torn away from its vessels and ureter and the organ severely crushed.

The inconstancy of the symptoms of renal injury, the great possibility of death from hemorrhage, and the utter impossibility of making an early and positive diagnosis would seem to justify the surgeon in adopting and urging that method which, if early, leaves no longer any doubt as to the nature of the accident. The exploratory incision would, it seems, come nearest to this, and should be classed among the other diagnostic measures. With gas anesthesia, the operation requires but a few minutes, is without danger and is always productive of vital information not otherwise obtainable. In cases, therefore, presenting doubt as to diagnosis, or cases which do not improve almost hourly from the time of the injury, procrastination should not be indulged in, but the exploration should be made at once. Whether the surgeon should do a laparotomy or open the kidney space through the loin will depend upon the possibilities of the

5. Bristow: Brooklyn Med. Jour., July 1904.
6. Fuller, Wm.: International Jour. of Surgery, Sept., 1905.

presence of complicating abdominal injuries. It must be remembered that the early evidence of the latter condition, as in kidney injuries, is often wanting; or even when only slightly in evidence may be easily overlooked. In cases not quite clear as to the nature of the injury, the laparotomy has much to commend it. In the first place, it in no way complicates the condition, and, besides affording knowledge as to the presence or absence of intra-peritoneal lesions, it gives a good idea often of the direction and extent of fluid extravasation, due to extra-peritoneal injuries; invaluable information in extra-peritoneal ruptures of the bladder to be presently referred to.

In approaching an injured organ through the loin incision, the utmost caution must be exercised in manipulating the organ and bringing it into view through the wound. This point, raised by Dr. Baccus of this society on a previous occasion, was well taken and is important, and particularly so with reference to kidneys that have been injured. The ease with which the renal veins may be torn, especially in injuries of the kidney, as Byron Robinson[7] has shown, is, I think, hardly appreciated. Dr. Robinson cautions the surgeon regarding this point and is of the opinion that, owing to the shortness of the renal veins, especially on the right side, and the very close proximity of the ureteral pelvis to the vena cava, the latter may be opened in case of adhesions.

Of prime importance, always, in dealing with an injured kidney, is the control of hemorrhage, which presupposes a perfect knowledge of the blood supply to that organ.

The investigations of Byron Robinson have shown that the ureter possesses an independent blood supply which is continued from its proximal to its distal extremity, and that this structure may be purposely or accidentally isolated for several inches without fear or danger of its necrosis.

Of even greater importance than this are his teachings with reference to renal surgery. He lays emphasis upon the knowledge imparted by Hyrtl and shows that the kidney has a double circulation and that in incisions into the kidney, as in nephrotomies, if made through the exsanguinated renal zone of Hyrtl, or at the line of union between the ventral and dorsal segments of the kidney, the hemorrhage will be very slight. This knowledge should be the greatest help to the surgeon when operating upon an organ which has been injured, and should enable him to give a fairly definite prognosis as to the outcome in the majority of cases. If the renal vessels are severed, the condition of the kidney itself need not be considered. If, on the other hand, the circulation is uninjured, although the ureter be injured and the kidney lacerated, an attempt should be made to save the organ. Perfect control of hemorrhage, with adequate drainage, will result, in a large number of cases, in preserving a part, if not the whole, of the organ if the operation be done early.

Traumatic ruptures of the bladder are serious accidents and have been attended, until very recently, by a very high death rate. Ruptures of the bladder are much oftener intra-peritoneal than extra-peritoneal.

7. Robinson, Byron: N. Y. Med. Jour. and Phila. Med. Jour., Dec., 1904.

Bartels[8] collected 169 cases which involved the peritoneum in 70 per cent. of them. The accident occurs, as a rule, by violence to the abdomen, as by blows and kicks when the bladder is full of urine; or, at times, to a more serious trauma, which may fracture the pelvis. The mortality of bladder ruptures, as figured by Ullmann's[9] statistics was very high; 143 intra-peritoneal ruptures, with 1.3 per cent. recoveries; 94 extra-peritoneal ruptures, with 22 per cent. recoveries. Surgical treatment of bladder ruptures in subcutaneous injuries differs in but one important exception to the rules formulated by Rivington in his monograph published in 1884.

He divided bladder ruptures, as most writers have done before and since, into intra- and extra-peritoneal tears, and strongly recommended that, as soon as the diagnosis was made of the former injury, the peritoneal cavity should be opened. In ruptures of the bladder not involving the peritoneum he regarded the prevesical incision and drainage sufficient.

In Cabot's review of the subject, Sept. 23, 1891, two important objections to his latter procedure were pointed out. The first is that if, through the prevesical incision, urine should be found, there would be no way of deciding whether the extravasated urine had, by dissecting up the peritoneum at the side of the pelvic walls, found its way to some retroperitoneal location; second, there would be no way of excluding intraperitoneal ruptures, and emphasized the danger that would attend an effort to demonstrate this by opening the peritoneum secondarily. The purpose of his paper, therefore, was to advocate the advantages of the peritoneal incision in practically all cases, whether the tear was intra- or extra-peritoneal, and to lay down some rule or procedure which would safely guide the surgeon without waiting to make a diagnosis.

Although Cabot placed little reliance on the methods of making the diagnosis previous to exploratory incisions, he regarded Wier's test of injecting water into the bladder of, perhaps, more importance than is usually accorded it. He said this little experiment should be repeated several times and if, with each repetition, the water returned in varying quantities, such evidence was just as valuable as when there was no return at all. He warned the surgeon against negative evidence which might be obtained, for two reasons: the first was the small size of the rent in the bladder, which would prevent the passage of the fluid through it; the second was a large opening which might become plugged with a loop of intestine, as happened in one of his own cases. It requires no argument to show that a laparotomy will, in bladder injuries, quickly and safely settle the question of intra-peritoneal rupture, and, by the aid of palpation and sight, give the best possible view regarding the extent and location of extra-peritoneal urinary extravasation. Moreover, it furnishes the necessary information for the purpose of proper drainage, which Cabot regarded as the prime consideration in all bladder ruptures. In a case of extra-peritoneal rupture which he reported, the abdominal incision

8. Bartels: Archiv. f. klin. Chir., vol. xxii.
9. Ullmann: Handbuch der Prakt. Chir., J. von Bergman, vol. iv, 1st ed.

suggested the means of draining a large collection of urine and blood, which had dissected up the peritoneum at the sides of the pelvis and had reached a location behind the peritoneum. The incision generally made for ligating the common iliac arteries was used to drain this case, which proved in every way satisfactory.

Among the important things to remember in bladder injuries are the predominance of intra-peritoneal ruptures, their very great mortality if not early operated, and the different localities which may be reached by extravasated urine in extra-peritoneal ruptures. In ruptures of the latter kind, the urine may fill the tissues around the neck of the bladder only; it may reach the abdominal wall by lifting up the peritoneum in front, or what is more likely, dissect it up from the sides of the pelvis, finding a retroperitoneal location even as high as the kidney. In cases that have been temporized with, the urine, with other fluids, will constitute large collections whose cavities can not be perfectly drained without definite knowledge, such as palpation and vision will give one, from within the peritoneal cavity.

In May of this year, a case of my own which was thought to be an intra-peritoneal tear of the bladder proved, on opening the abdomen, to be only an extra-peritoneal one with very extensive leakage and accumulation of urine in the bottom of the pelvis and also in the space of Retzius. The opening of the abdomen in this case gave at once the clearest possible evidence of the nature and extent of the injury. The abdominal incision was closed and supra-pubic and infra-pubic drainage introduced. Besides having a ruptured bladder, the patient had multiple fractures of the pelvis, also of the neck of the left femur, with great laceration of the soft tissues about the anus, which extended up the rectum for about two inches. The patient's death, which occurred from general sepsis on the twelfth day, left no doubt in my mind that the knowledge gained by the laparotomy in this particular case was not used to the best advantage in the subsequent treatment.

The case was drained supra-pubically and infra-pubically with tubes and gauze, which seemed sufficient at the time. The mistake, however, which was a serious one, was not realized until it became necessary to renew efforts at drainage on the fourth day, and until the death of the patient, which occurred eight days later.

The question of renal and bladder surgery with reference to injuries is far from being a settled one. The present methods of diagnosticating these injuries are lacking in reliability. The means of determining pathologic conditions of renal organs due to causes other than injury are inefficient and useless here. The points, therefore, which are of great interest to the physician in the study and consideration of this subject are, first, due appreciation of the dangers accompanying and following the injuries to the kidney, ureters and bladder; second, the symptomatology, which is a diversified one, and on which too much reliance should not be placed; third, the importance and value of early, well-selected and conservative operations, which should be the rule in all serious and doubtful cases.

ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF THE ILLINOIS STATE MEDICAL SOCIETY.

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DECEMBER, 1906.

CHARGES FILED AGAINST SUPERINTENDENT OF THE INSTITUTION FOR FEEBLE MINDED CHILDREN AT LINCOLN.

Charles T. Hoblatt, chief clerk of the Feeble Minded Institution at Lincoln appeared before Governor Deneen on November 13 and filed charges against Dr. C. B. Taylor. It is stated that the charges were turned over to W. C. Graves, secretary of the State Board of Public Charities for investigation and will, in all probability, be acted upon at the next meeting of the board. In the meantime, it may be asked how many more times it will be necessary to investigate this institution before some radical change is made. For many years it has been considered far behind the standard of institutions in other states and it has been the opinion of those familiar with its conduct that it is high time for action.

DR. MOYER RETIRES AS EDITOR.

Mr. E. G. Swift, of Detroit, publisher of several medical magazines issued under the auspices of Parke, Davis & Co., announces, under date of November 15, that there will be a consolidation of the *Medical Age* and *Medicine* with the *Therapeutic Gazette*, beginning January 1, 1907.

The editors of the enlarged journal will be Drs. H. A. Hare and Edward Martin. This will result in the retirement of Dr. Harold N. Moyer, who has been the able editor of *Medicine* since its inception, and who has succeeded in giving to that journal a remarkable standing among the medical periodicals of the West. In bidding farewell to Dr. Moyer as an editor, we gladly bear witness to his ability as a writer and regret that he will be no longer active in this field.

GOVERNOR DENEEN VISITS STATE INSTITUTIONS OF NEW YORK AND PENNSYLVANIA .

Governor Deneen, after attending the meeting of the directors of the Illinois Central Railroad in New York City, visited several state institutions of New York and Pennsylvania and, on his return, told a newspaper reporter that in buildings and sanitation, the Illinois state charitable institutions compared very favorably with those in the East, but that the fact is evident that the asylums in this state are not so well equipped in the medical departments and that less money is appropriated yearly to maintain them. The State Board of Public Charities has lately adopted active measures tending toward a higher standard of equipment in the state institutions and we are pleased to know that Governor Deneen appreciates the fact that Illinois is far behind in the general conduct of its institutions, especially in the medical departments. It is to be hoped that there will be no further delay in bringing about a change in the majority of them.

COUNTY SOCIETIES AND THE STATE SOCIETY.

In spite of the frequent explanations which have been made by officers of the state organization, as well as through the columns of THE JOURNAL, it is evident that the fundamental principles underlying the organization of the state society and its relation to the component county societies, of which it is made up, are not as yet clearly understood by all our members. It would not be surprising if this was true of new members, or of those who have not taken a prominent part in the work of conducting and managing county medical societies, but failure to grasp these principles is not limited to the beginners. In some cases, even the officers of the county societies themselves show by their letters and statements that they have not as yet thoroughly comprehended the relationship between the different parts of the organization, nor clearly understood what constitutes good standing as a member. A letter received recently from the secretary of one of our county societies is interesting for this reason. He writes, in reply to a letter sent him asking why the name of the president of his county society had not been reported to the state secretary. In his letter he says: "Dr. ——— is president of our county society, but has

never paid any dues to the state medical society; consequently I have not reported him in good standing to the secretary of the state society."

To understand thoroughly the present situation, it is necessary to consider very briefly the history of medical organization in the state. Prior to 1903 the Illinois State Medical Society was a distinct and separate organization, having no relation to the numerous county, district and local societies in the state. Membership was obtained by attending one of the annual meetings of the society and making application for membership. The applicant might be a member of his county society or not. Members of county societies joined the state society if they so desired. The state society had an annual due of $3.00, which entitled the member to a copy of the transactions. In 1903, at the annual meeting of the state association, held at Chicago, the state society adopted a new constitution and by-laws in accordance with the general reorganization movement, which was then taking place. By the adoption of this new constitution, the old Illinois State Medical Society practically ceased to exist as an independent body. Membership was vested entirely in the county society, which thus became the sole judge regarding qualifications of applicants. A legislative body, composed of delegates from each county unit and called the House of Delegates, was organized. In the hands of this body was placed the entire legislative function of the state society. To defray the expenses of THE JOURNAL and of the officers of the state organization a *per capita* tax was authorized, which tax is levied each year by the House of Delegates on the county societies. Since the House of Delegates is made up of representatives from the county societies, this is practically equivalent to the county societies setting apart a certain proportion of their dues each year for state expenses.

A careful examination of the constitution and by-laws of the Illinois State Medical Society will establish the following propositions: (1) The state society simply consists of the aggregation of all the county societies in the state which have been chartered or recognized by the House of Delegates. (2) There is no membership in the state society outside of the membership of the county societies. (3) The House of Delegates, or the legislative body made up of duly elected representatives of the various component county societies, is, to all intents and purposes, the state society. The general session is a meeting, for scientific purposes, of all the members of the organization in the state (i. e., of the county societies) who are able to attend the annual meetings. (4) There are no state society dues. There is a *per capita* assessment, levied not on the individual member, but on the county society for the purpose of defraying the expenses of the state organization. Since this tax is levied by the representatives of the county societies, it is a voluntary setting apart of the county societies of a certain portion of their dues for general state expenses. It follows from this, therefore, that the state assessment, or as some members and even some county secretaries persist in erroneously designating it, the "state dues," is a part of the county societies' dues, and that no member is in good standing with his county society unless the entire amount, including the state assessment, is paid to the county secretary.

It is essential for a clear understanding in this matter that members get away from the idea that the payment of the state assessment has anything to do with attendance at state meetings. Members occasionally make the statement that they "did not pay any state dues last year because they did not attend the state meeting." The state assessment is not for the purpose of paying the expenses of the state meeting, nor has it anything to do with it. It is for the purpose of carrying on the work of the state organization, which goes on twelve months out of the year, entirely regardless of the annual session. It would be just as reasonable for a citizen to refuse to pay his taxes on the grounds that he had not been in Springfield for two years. A thorough understanding of these underlying principles will greatly facilitate the work of the officers of both county and state societies and will also increase efficiency of organization throughout the state.

SOME METHODS OF ADVERTISING.

There recently came to the office of THE JOURNAL a letter from a physician in a state more than five hundred miles from Illinois, which read as follows:

"Dear Doctor:—Will you have the kindness to insert the item below in the columns of your journal? Thanking you in advance for your courtesy in the matter, I am, _____."

The "item below" announced the appointment of the writer of the letter as professor in a postgraduate school to fill a vacancy caused by the death of the former incumbent. In view of the discussion and interest recently aroused by the consideration of different forms and kinds of advertising, one is led to speculate regarding the motives and objects of the writer of the above letter. It is evident from its character that it was sent to a large number of medical journals. The most charitable view to take of the writer's motives is, that he was actuated by a desire to supply the journals of the country in general, and THE ILLINOIS MEDICAL JOURNAL in particular, with a valuable news item. This is certainly commendable, but it is also a question whether the appointment of an individual to fill a chair in a school of more or less influence and standing, located a thousand miles from the seat of publication of this journal, is of particular interest to its readers. It is also possible that the writer was animated by philanthropic motives, in that he surmised that the announcement of the appointment might be a means of increasing the standing and prestige of the school in question. If such is the case, the writer certainly showed a considerable amount of disinterestedness and unselfishness in circulating the item at his own expense. The third and only alternative supposition is that the writer desired the fact of his appointment circulated as widely as possible for the purpose of self-advancement and advertising. While we would hesitate to adopt this explanation, we are forced to admit, reluctantly, that such things have been known to occur in the medical profession heretofore. We are unable to understand just what importance such an item could have to the readers of THE ILLINOIS MEDICAL JOURNAL. We are also unable to under-

stand why a journal supported and published by the organized profession in Illinois should be expected to devote space in its columns to items regarding newly-appointed professors in far distant states; however important such an item might seem to the individual concerned.

If this were an isolated instance, it would hardly be worthy of notice. Unfortunately, it is not. In spite of the frequent expressions on the part of the profession, both as individuals and through the resolutions of organized bodies, there are to be found, in every community, physicians who are constantly seeking notoriety through frequent newspaper items and notices, which appear in such number as to lead the uncharitable to assert that their appearance is not entirely without the consent of the persons interested. When men who occupy positions of influence and standing in the profession and who are conspicuous as teachers and instructors in medical colleges do not hesitate to send out, over their personal signatures requests for the publication of items similar to the one quoted above, what can we expect will be the effect of such an example upon the physician in the small town or city, who sees no reason why he should not get the benefit of a little advertising by having notices regarding his patients and his operations inserted in the local papers? Are the advantages of journal items to be limited entirely to professors in medical colleges? Shall not the obscure, general practitioner in the country district occasionally profit by the judicious use of printer's ink? Is not sauce for the professorial goose also legitimate sauce for the general practitioner gander? Why should the little man be condemned for doing what the big man does with impunity?

We trust the above notice will be satisfactory to the gentleman who requested space for the insertion of an item. He asked for room in the news department. We have given him the much greater distinction of editorial mention.

THE COLLECTION OF VITAL STATISTICS AN IMPORTANT WORK.

The Department of Commerce and Labor of the General Government, which has charge of the compilation of the census, is sending out, from the Division of Vital Statistics, letters to the medical journals of the country regarding the advancement of vital statistics. This matter, of great importance to the profession and the general public, has been, for years past, one of special concern to the organized profession. Over fifty years ago the American Medical Association appointed a standing committee on this subject. The accumulation of reliable and exhaustive data along the lines of health, disease and causes of death was one of the subjects most frequently discussed in the early meetings of the organized profession. The influence of the medical profession in advancing and systematizing collection of vital statistics is recognized by Dr. Cressy L. Wilbur, the chief statistician of the department, in the letter alluded to above. It should be the aim and the privilege of all members of the profession, who are interested in placing the collection of figures regarding health and disease on a reliable and scientific basis, to assist the

Division of Vital Statistics in this work. Dr. Wilbur offers to send copies of the latest pamphlet issued by his bureau, on the extension of the registration area for births and deaths, to any physician or health authorities who desire it. In order that the coöperation of the profession in Illinois may be as general and widespread as possible, every reader of THE JOURNAL, and especially every physician occupying the position of health officer in his community, is urged to write to Dr. Wilbur and secure literature and information regarding this important work. Letters or postal cards addressed to Dr. Cressy L. Wilbur, Chief Statistician, Division of Vital Statistics, Department of Commerce and Labor, Washington, D. C., will procure the desired information.

TWO OBJECT LESSONS.

In the September number of THE JOURNAL appeared a most interesting article by Dr. J. W. Pettit on the Ottawa Tent Colony. In this number of THE JOURNAL appears an article by the Superintendent of the Dunning Tuberculosis Camp. These two camp sanataria are of special interest to the physicians of the state. They represent not only the most advanced, but also the most hopeful means of dealing with the ravages of tuberculosis. They are valuable not only as places of treatment for the patients who are sent to them, but still more as object lessons to the physicians and the people of the state, of what may be accomplished, in the rational treatment of tuberculosis, by fresh air, sunshine and nourishing food. The belief in the influence of heredity, in the causation and development of tuberculosis, which years ago doomed thousands to an untimely death, on account of infection of parents or older members of the family, has been thoroughly exploded. The later fallacy of the necessity of certain climates and locations for cure has also been dissipated. The profession now knows that there is no reason why tuberculosis should not be treated as successfully in Illinois as in any other state in the Union. It is only necessary to demonstrate this thoroughly to the laity to win their confidence and coöperation. Such institutions as the Ottawa Tent Colony and the Dunning Tuberculosis Camp are of great value as educational institutions alone.

A LITTLE PREACHMENT.

JAMES F. PERCY, M.D.
PRESIDENT OF THE ILLINOIS STATE MEDICAL SOCIETY.
GALESBURG.

In the last issue of THE JOURNAL, I made some remarks regarding the Insurance Examination Fees. In this issue, I wish to say something about organization, as it affects the profession in this state. The greatest thing that was ever done for the profession of medicine in this country was when the re-organization committee of the American Medical Association made the county society the unit of medical organization. Be-

fore that time, it was difficult to get the members of the medical profession to take more than a perfunctory interest in the medical society work. In the adequate life of the practitioner of medicine, the sum total of his interest in the work of his fellows can be usually summed up by the reading of three or four papers, and the attendance at about ten yearly meetings of medical societies. The truth of this statement, I believe, applies not alone to men in the country, but to those near the abundant clinical advantages of the large cities as well. If this is true, is it not one of the explanations of the lack of interest in medical society work, not only in the past, but, although to a lesser degree, in the present also? What can any man accomplish, if the sum total of his interest is measured by ten or fifteen days of his life time, spent in the pursuit of any one subject?

There are only two sides to medicine, the practical, from which is derived our living, and the scientific, from which we gain inspiration to make our work something more than drudgery. In the beginning, the larger part of our profession have uppermost in their minds the scientific aspects of the practice of medicine. But when that great law of the survival of the fittest grips us hard, our minds are too often forced into a position where they run most easily when grappling with the problems that concern the bread and butter side of our work. This is no crime; indeed, with the most of us it is a necessity. But the harm comes not only to ourselves, but to the community in which our lot is cast, when, after the fight for existence is decided in our favor, we do not enlarge our point of view, and give more because of what we have previously won.

In my journeys about the state this year, I have been struck by the number of men in the profession who want to change their location. In almost every instance, they are in the class who have won recognition in their communities. They have about passed through the bread and butter stage, and the instinctive feeling, which is expressed in this desire to do more for themselves, their family and the profession, finds an outlet in the desire to move. I believe that, in the majority of instances, this moving is a mistake. To prove that I am right in this, I could cite many instances, did space permit. The time lost in obtaining a new foothold in a, perhaps, more desirable and larger community, the money spent in answering the greater demands usually necessary when taking up one's work in a new field, the wear and tear upon the nervous system of the man who has been used to being busy and forced again to sit and wait as in the beginning of his career, all of these things beat back rather than push forward the physician who attempts it. They could be more profitably exercised in re-developing the opportunities in the field already occupied.

There are acres of diamonds all about us if we had but the necessary experience to recognize them. Not always to be found are acres of diamonds for one's children, in the way of educational advantages, or the larger social sphere for one's wife in the smaller communities, perhaps; but I am speaking now of professional opportunities, and it is on this

basis that the man who loves his profession must finally stand or fall. With transportation so easy and cheap, one's children can easily be given, in neighboring communities, what may be denied them at home, and the same can be said of the social life, as well, for the rest of the family.

Then again, practically every community is improving along social and material lines. It will not be many years before the farming lands of Illinois will average five hundred dollars per acre. This increase in value will bring better roads, trolleys and automobiles, so that the latter days of the man in our profession who has stuck to his field and developed it as it should be developed, can not but be an enviable one.

But the professional and material interests of the profession will never be realized to the fullest measure without organization. Alone, no man can reach the full possibilities of his nature. The fiber of the brain and its consequent capacity for work is the same in every city and country town in this great country of ours. All it needs is development, and this cannot come without exercise, and the quickest and best paying kind of exercise that one can get is mixing with one's fellows. I know a physician, a member of our state society, who twenty years ago paid six per cent. on money borrowed to attend his first meeting of the American Medical Association. That man is one of the tried and true leaders of the profession in this state. I recently met another man, located in a town of seven hundred inhabitants, who had received a fee of five hundred dollars for putting five pounds of flesh on a baby in five weeks. No one else had been able to do it. He did it, and although there was some slight protest on the part of the parents as to the fee, it was paid. This man had always gotten big fees and a big practice, because he does good work and demands good pay for it.

Getting in touch with the man who has done some one thing well can but profit. Indeed, if we would have our eyes and ears open in order to learn where these men are, and then study them as we would a case of typhoid fever, or a fracture under the *x*-ray, we would get as much profit as in the study of disease. The majority of them are in our country societies. It was Emerson who said: "If a man writes a better story, or paints a better picture, or builds a better mouse-trap than his neighbor, though he build his house in the woods, the world will make a beaten path to his door."

But these men are not doing all that they can, or could, for the county societies, either in the way of adding to their membership or to the value of their meetings from a scientific standpoint. There are eight county societies in this state whose presiding officers have not paid their per capita tax to the state society. When the county society is the unit of all things medical in this country, as it now is; when the county society, through the House of Delegates, controls the various state societies, and the American Medical Association as well, it behooves us to get together and make the medical organization of this country the greatest in the world.

THE SPRINGFIELD CONFERENCE ON CHARITIES.

Steps were taken at a conference held in Springfield on October 18 and 19 to elevate the service in Illinois state hospitals for the insane and feeble-minded to a higher level of efficiency. This conference was suggested by his Excellency, the Governor. It was called by and sat under the direction of the State Board of Public Charities. The basis of every suggestion for improvement advanced is a desire to provide better care for each patient. The original purpose was to hold a conference of all superintendents of institutions coming under the jurisdiction of the State Board of Public Charities. But, owing to the magnitude of the work and the diverse character of the three groups of institutions, it was found expedient to limit the scope of the conference to state hospitals caring for the insane and feeble-minded.

After listening to remarks by his Excellency, the Governor, to a basis for discussion, prepared by the State Board of Public Charities, and to papers on appropriate topics, the conference authorized the appointment of committees to take up the various suggestions made and report their findings to an adjourned session of the conference to be held in Springfield early in December. In cases where legislative authority is required, the reports of the committees will be the basis on which bills will be prepared for consideration by the General Assembly this year.

STATEMENT OF IMPROVEMENTS CONTEMPLATED.

Briefly stated, the improvements taken under consideration are: 1. A state psychopathic institute, to be located in one of the hospitals for the insane which is near a large city, with branches of this institute in each hospital for the insane and in the hospital for feeble-minded. The purpose of this institute is to give clinical and pathologic instruction to doctors in the state service and to physicians in general practice.

2. Complete state care of all insane, epileptic and feeble-minded persons, and dependent consumptives, meaning the removal of such persons now in county almshouses to state institutions. This item includes the establishment of a state colony for epileptics and a state sanatorium for consumptives, also free diphtheria antitoxin, provided by the state.

3. General uniformity of service, including a medical superintendent in charge of each hospital, a staff of senior physicians, a staff of internes, a dietest, a superintendent of nurses and a sufficient nursing and attendant service taught in a compulsory training school, on the medical side, and a steward, or a business manager, under the medical superintendent, on the business side.

4. Hydrotherapeutic treatment in a psychopathic pavilion for acute hopeful cases of insanity sent in on temporary commitments; more ample hospital facilities for physically sick insane, and employment and industrial re-education for chronic insane; more recreation for patients; the abolition of mechanical and medicinal restraint as far as possible, and more thorough classification of patients.

5. Uniform and complete medical records.

6. The establishment of uniform grades of service, uniform general rules, and uniform nomenclature of places of employment.

7. Problems of the feeble-minded, especially feeble-minded women of the child-bearing age.

8. Changes in the physical property, including machinery and other equipment, to provide adequate ventilation, safe and sanitary quarters for patients, and more economical administration.

9. Consideration of changes necessitated by conditions at the Joliet Prison.

THOSE WHO ATTENDED THE CONFERENCE.

The following is a list of those attending the conference: His Excellency, the Honorable Charles S. Deneen; Dr. W. L. Athon, Superintendent Southern Hospital for the Insane; Dr. Frank Billings, President of the Board of State Commissioners of Public Charities; Mrs. Clara P. Bourland, member of the Board of State Commissioners of Public Charities; Mr. Ernest P. Bicknell, Superintendent Chicago Bureau of Charities; Dr. Daniel R. Brower, of Chicago; Dr. H. B. Carriel, Superintendent Central Hospital for the Insane; Mr. Thomas J. Clark, President Board of Trustees Asylum for Insane Criminals; Dr. Frank S. Churchill, of Chicago; Dr. Richard Dewey, Physician in Charge Milwaukee Sanitarium, and formerly superintendent at the Eastern Hospital for the Insane; Dr. Haim I. Davis, County Physician, in charge of the Cook County Detention Hospital; Dr. William A. Evans, of Chicago; Dr. James L. Greene, Superintendent Eastern Hospital for the Insane; Mr. Frank W. Gould, President Board of Trustees of the Western Hospital for the Insane; Mr. William C. Graves, Secretary Board of State Commissioners of Public Charities; Dr. Emil G. Hirsch, member of the Board of State Commissioners of Public Charities; Dr. John T. McAnally, member of the Board of State Commissioners of Public Charities; Mr. W. B. Moulton, President State Civil Service Commission; Mr. Joseph C. Mason, Secretary State Civil Service Commission; Dr. V. H. Podstata, Superintendent Northern Hospital for the Insane; Mr. Robert Rew, President Board of Trustees Northern Hospital for the Insane; Dr. Walter E. Songer, Superintendent Asylum for Insane Criminals; Dr. W. E. Taylor, Superintendent Western Hospital for the Insane; Dr. C. B. Taylor, Superintendent Asylum for Feeble-minded Children; Mr. Charles M. Tinney, manager sales department of the Board of Prison Industries; Dr. George W. Webster, President State Board of Health; Mr. James A. Willoughby, member State Civil Service Commission; Dr. P. M. Woodworth, member Board of Trustees of the Northern Hospital for the Insane; Dr. O. C. Willhite, general superintendent Cook County Institutions at Dunning; Mr. D. E. Wood, treasurer Northern Hospital for the Insane; Dr. George A. Zeller, superintendent Asylum for Incurable Insane; Mr. W. Carbys Zimmerman, state architect. Letters of regret were recived from Dr. Charles R. Henderson, professor of sociology in the University of Chicago; the Honorable Edward J. Brundage, president of the Board of Commissioners of Cook County; Dr. Hugh T. Patrick, of Chicago, and Dr. James A. Egan, secretary State Board of Health.

THE PROGRAM.

Thursday, October 18, 2:00 P. M.

Purpose of the Conference.....His Excellency, the Governor

State Board of Charities' Suggestions.....
.....Dr. Frank Billings, President State Board of Charities

Civil Service Uniformity.....
.....Hon. W. B. Moulton, Chairman Civil Service Commission

Buildings and Physical Equipment.....
.....M. W. Carbys Zimmerman, State Architect

Consumptives in Prisons, Asylums, Jails and in the Community at Large .....
Dr. Wm. A. Evans, Professor of Pathology, University of Illinois

Should Illinois Furnish to Its Citizens Free Diphtheria Antitoxin?.....Dr. George W. Webster, President State Board of Health and President Chicago Medical Society

Thursday, October 18, 8:00 P. M.

The Medical Administration of Public Hospitals for the Insane..
.....Dr. Daniel R. Brower

Nursing and Attendant Service and Compulsory Training Schools..
Dr. V. H. Podstata, Superintendent Northern Hospital for the Insane

Proved Value of Hydrotherapeutic Treatment for Cases of Acute Insanity (Illustrated).....Dr. Richard Dewey

Employment and Recreation for Chronic Insane.....
Dr. W. E. Taylor, Superintendent Western Hospital for the Insane

Mechanical and Medicinal Restraint.....
Dr. George A. Zeller, Superintendent Asylum for Incurable Insane

Pay Patients in Public Hospitals for the Insane.....
.....Mrs. Clara P. Bourland, Member State Board of Charities

The Proposed State Psychopathic Institute.....Dr. Frank Billings

Need of Uniform and Complete Medical Records.....
.....Dr. T. J. McAnally, Member State Board of Charities
Dr. O. C. Willhite, Superintendent Cook Co. Institutions at Dunning

The Care and Treatment of Epileptics.....Dr. Frank S. Churchill

Surgery Among the Insane.....Dr. James L. Greene,
Superintendent Eastern Hospital for the Insane, Kankakee

Psychopathic Wards and Temporary Commitments Thereto.....
Dr. H. B. Carriel, Superintendent Central Hospital for the Insane

Friday, October 19, 1:00 P. M.

Business session and discussion of the general topic: "What System of Charity Administration Is Best Suited to the Needs of Illinois?"

COUNTY AND DISTRICT SOCIETIES

BUREAU COUNTY.

The twenty-fifth semi-annual meeting of the Bureau County Medical Society was held in the City Hall at Princeton, Ill., Thursday, Nov. 15, 1906, with Dr. C. C. Scott in the chair. Members present: A. E. Owens, W. C. Griswold, J. F. Taylor, A. H. Flickwir, C. C. Barrett, M. H. Blackburn, L. H. Wiman, C. C. Scott, C. A. Palmer, J. L. McLean, B. F. Landis, H. M. Owens, W. E. Howard, M. N. Guernsey. William Kellar, O. J. Flint, W. M. Kaull. Visitors: J. F. Percy of Galesburg, Ill.; E. P. Cook of Mendota; Charles Owens, C. C. Hunt and Dr. Lasarze, of Dixon; Dr. Harris and H. R. Hess of Whitefield.

Minutes of preceding meeting were read and approved.

Application for membership was made by Howard R. Hess of Whitefield, and on motion, was favorably acted on. The temporary appointment of Dr. C. A. Palmer by President White to represent this county on the Medico-Legal Committee was made permanent.

Dr. M. N. Guernsey read an excellent paper on Eclampsia, which brought out an interesting discussion. Dr. Blackburn thought elimination and supportive treatment the essentials. He used morphin, pilocarpin, veratrum viride and diaphoretics. Dr. Griswold deprecated the use of veratrum viride, and stated that a hypodermic syringe full of saturated solution of Epsom salts, given hypodermically, acted as an excellent cathartic. He advocated its use in these cases. Dr. A. E. Owens thought phlebotomy and injection of normal saline solution good treatment, and believed these cases were tolerant to veratrum viride and half-grain doses of morphin, repeated every two hours, as needed. He believed morphin to be better than chloroform. He was doubtful of the value of diaphoresis and did not think that much of the poison was eliminated through the skin, and warned against the use of pilocarpin, because of its depressing effect on the heart. Dr. Palmer also thought the use of pilocarpin dangerous, and suggested that the use of morphin would tend to interfere with an elimination which is considered essential. He also questioned the value of the hypodermic use of magnesium sulphate as a cathartic. Dr. Percy considered the use of strophanthus of value as a heart tonic, and said that surgeons had, to a large extent, given up the use of strychnia as a heart tonic, and believed there was no question that its use was harmful in cases of shock. He believed that phlebotomy and injection of normal salt solutions were of value, but believed the time was coming when the proper treatment will be considered to be the emptying of the uterus by Cesarean section. Dr. Charles Owens believed that prophylactic treatment was the most important treatment and feared that we did not always watch our cases close enough during pregnancy.

Dr. A. H. Flickwir presented a paper on Neurasthenia and Hysteria in Country Practice. Before beginning a discussion of this paper Dr. Percy suggested that as his paper covered much the same ground, they be discussed together. Dr. Percy then read an excellent paper on the Borderland of Insanity. This paper so completely covered the ground that there was no room for discussion.

Dr. Cook then presented some very interesting specimens and reported a case of Tubal Pregnancy, Operation and Recovery, and a case of Ovariotomy at 90 Years. He brought out the interesting fact that his father, 45 years ago, in 1861, performed an operation for rupture in extrauterine pregnancy with recovery, which was one of the first cases so operated on in the West. Dr. Charles Owens of Dixon, Ill., read a paper on Prostatectomy by the Perineal Route. This also brought out a very interesting discussion.

The following officers were elected for the coming year: C. C. Scott, president;

A. S. Rummell, first vice-president; J. F. Taylor, second vice-president; O. J. Flint, secretary and treasurer.

Dr. A. E. Owens stated that of the 25 meetings of the Society, this was the best and most instructive, and suggested that the Society give a vote of thanks to the visiting physicians who had offered so much for the benefit of the Society. The meeting then adjourned. O. J. FLINT, *Secretary.*

CHAMPAIGN COUNTY.

The Champaign County Medical Society met in regular session Thursday, November 8, at Champaign. It was the first meeting under the revised constitution and by-laws, which provide for meetings held on the second Thursday of each month, except July and August, when no meetings will be held. Dr. H. E. Cushing read a very well prepared paper on Fracture of the Neck of the Femur, in which he discussed the value of the various treatments.

The most important business transacted was the adoption of the following resolutions:

WHEREAS, Certain old-line life insurance companies have underestimated the importance and value of the work done by their local examiners and have reduced the fee for such work; therefore, be it

Resolved, That the members of the Champaign County Medical Society, recognizing that the examination of every applicant for life insurance should be made with the same care and thoroughness, decline to make an examination for any old-line life insurance company for less than five dollars; and, be it further

Resolved, That this resolution should take effect and be binding on the members of this Society on and after Dec. 1, 1906; and, be it further

Resolved, That the Secretary is to furnish each member with ten printed copies of this resolution and that each member must notify the companies for which he is local examiner.

C. M. CRAIG, *President.*
C. D. GULICK, *Secretary.*

COOK COUNTY.

CHICAGO MEDICAL SOCIETY.

The first meeting of the Chicago Medical Society for the year was a joint meeting of the main society and the Chicago Gynecological Society, held October 10. A full report of this meeting will be found in *Surgery and Gynecology and Obstetrics* for January, 1907.

A regular meeting was held Oct. 17, 1906, with the president, Dr. George W. Webster, in the chair. Dr. William Hessert read a paper entitled

HEMORRHAGE FROM THE STUMP, FOLLOWING APPENDECTOMY, WITH A REPORT OF THREE CASES.

WILLIAM HESSERT, M.D.
CHICAGO.

(*Author's Abstract.*)

The author has had the rather unusual experience of three cases of hemorrhage into the colon, following the operation of appendectomy. Two of the cases were interval operations, in the other case the appendix was only moderately inflamed. The technic followed was the widely practiced one of clamping the appendix at its base, cutting away the distal portion flush with the forceps, inserting a purse string suture around the base, releasing the forceps, and inverting the stump while the purse string was tied. The author deems it timely to call attention to this matter because some of the most popular methods make no provision for the prevention of postoperative hemorrhage. If a little variation in technic may be the cause of losing the patient from hemorrhage, as happened to the author, then

is it not timely to sound a warning, so that every operator, in every case, will make some provision by suture, ligature or cautery, making postoperative bleeding an impossibility?

CASE 1.—Female, aged 13 years; operated during first twenty-four hours of a mild attack. Mesentery ligated with catgut and severed. Appendix clamped with artery forceps at its base and cut away. Purse string suture around base; appendix inverted and purse string tied. Over this was another row of Lembert sutures. Patient in fine condition for twelve hours. Then the blood escaped per rectum, with signs of acute anemia and moderate shock. She lost some blood for two days, when hemorrhage ceased and patient finally made a complete recovery.

CASE 2.—Female, aged 25 years. In the course of a pelvic operation of short duration, the appendix was found to be five inches long and to contain two large enteroliths. Its extirpation was deemed justifiable and the organ was removed by the method used in Case 1. There was no history of a previous attack of appendicitis. Patient did nicely for about twelve hours, when she went into a profound relapse, and, shortly after, passed large amounts of blood per rectum. The hemorrhage was severe, and although she rallied several times, she finally died in thirty-six hours, in spite of the most heroic efforts to save her life.

CASE 3.—Male, aged 23 years. Interval operation. Appendix situated entirely posteriorly to cecum, with no mesoappendix. Cecum pulled up and the peritoneum covering the appendix incised and the organ liberated. Purse string suture around base, and following the suggestion of Harris, an extra loop was passed around what corresponds with the cecoappendical angle, then an extra row of Lembert sutures. As in the previous cases, about twelve hours after operation, blood appeared per rectum, and showed itself for about thirty-six hours. There was some shock and clinical signs of acute anemia. Recovery.

In order to understand the occurrence of hemorrhage, one must first consider the arterial distribution of this region. The anterior and posterior cecal and the appendicular arteries supply this region. The cecal and appendicular arteries anastomose, but the line of anastomosis is variously situated. In 62 per cent. the line is well up on the cecum; in 32 per cent. it is at the cecoappendicular junction; in 5 per cent. the cecal vessels pass into the base of the appendix and here the blood current is towards the tip of the organ. Ligation of the appendicular artery will, in the first two types, probably control bleeding from the cut end of stump. In the third type, however, where the base of appendix is supplied by the cecal, and not by the appendicular vessels, hemorrhage is likely to occur, uninfluenced by previous ligature of the appendicular artery.

Knowing that postoperative hemorrhage, even to a fatal degree, is a possible sequel of some of the most popular methods of amputation of the appendix, it seems justifiable to point to this danger and adopt measures for its absolute prevention. One of the best methods is to amputate the appendix by means of the thermo-cautery or cautery clamp. One does not always have the necessary appliances at hand, however. Following this, the best method is the following, viz.: ligate the appendicular artery and cut away the mesoappendix; in postcecal or atypical cases, liberate the appendix by whatever method fits the individual case. Clamp two heavy artery forceps on the base of the appendix. These forceps crush out the mucosa, leaving mostly fibrous connective tissue in the grasp of the instrument. Remove the forceps nearest the cecum and tie a fine catgut ligature around the crushed base. Cut away the appendix close to the ligature, the second forceps preventing the escape of contents from the ablated organ. Bury the stump with a few rows of Lembert sutures. Should any vestige of mucous membrane be still visible distal to the ligature, it can readily be removed or cauterized with carbolic acid, before proceeding to bury the stump. This method is safe as regards infection, and absolutely sure in preventing such a deplorable sequel as postoperative bleeding. No one should ever operate, without bearing in mind, in every case, the possibility of hemorrhage, and adopting means for its prevention.

DISCUSSION.

Dr. M. L. Harris:—The method of treating the appendix has, for a little thing, given rise to as much discussion as any other subject. It is now more than ten

years since Dawbarn first presented the purse-string suture and the invagination of the stump method. It was so simple that I adopted it at once and have used it ever since. It was along about that time, in talking with the late Dr. Fenger regarding the method of treating the stump, that this method was mentioned. He said he had never used it, because he was afraid of hemorrhage from the end of the appendix. At that time I had never seen hemorrhage from the stump and no cases had been reported. But, bearing in mind Dr. Fenger's remark, I began to pay a little more attention to the appendix, after I had ligated the mesenteriolum. I noticed that after ordinary ligation of the appendicular artery or of the mesenteriolum, after cutting the appendix, in a few cases bleeding continued from the side of the appendix, especially toward the mesenteriolum, and I found, in the majority of cases, that this hemorrhage came from a small branch of the appendicular artery which was given off near the base of the appendix, and followed closely in the wall of the appendix, so that when the appendicular artery was ligated this little branch failed to be included in the ligature. In order to prevent a possible hemorrhage from this source in placing the purse-string suture, pass a complete loop in the cecum just at the base of the appendix at the free angle where the mesenteriolum is given off so as to include this small branch, should it to be present. This procedure effectually guards against hemorrhage from this source. Very rarely oozing may occur from the end of the stump, from small vessels in the submucosa which anastomose with similar small branches which pass into the base of the appendix from the cecum. In this event, which is very unusual, a couple of fine catgut sutures passed through the mucosa at the end of the stump controls the oozing perfectly. One should never invaginate a stump of the appendix until sure that all bleeding is stopped. I have treated the stump in this manner hundreds of times and have never had hemorrhage follow.

Dr. A. J. Ochsner:—There can be no doubt but that hemorrhage occasionally occurs unless the precautions which Dr. Hessert has suggested as a regular method be employed, or the methods which Dr. Harris has just illustrated be adopted. It matters very little what method we select in disposing of the stump, so long as it provides against hemorrhage. The results are equally good, whether one simply ligates the appendix and inverts it; or excises it and sutures it; or follows the Dawbarn method; or simply ligates and cauterizes it without burying it. The total results seem to have been about the same. Many of the most experienced surgeons follow each one of these various methods. My personal preference is to practice the method indicated by Dr. Harris, that is, the Dawbarn method, crushing the appendix then inserting the suture in the manner illustrated by Dr. Harris.

For a number of years, I regularly ligated the appendix, and then inverted it, without crushing, but for nearly seven years I have followed the Dawbarn method and the Harris loop, and, in about one per cent. of all cases, I have passed a ligature about the crushed stump, selecting naturally such cases as appear to be somewhat unsafe. During this period, I have removed over two thousand appendices, without a single case of postoperative hemorrhage from the stump, showing, to my satisfaction, at least, that all that is necessary in the matter is to have our attention directed to the possibility of hemorrhage. If we bear in mind in removing the appendix, that there is a possibility of hemorrhage, I believe we can remove any number of appendices without having hemorrhage. If there is doubt in any given case, the ligature, applied in the manner described by Dr. Harris or Dr. Hessert, will remove the possibility of hemorrhage. If any surgeon, therefore, is in doubt, the application of the ligature in every case can not possibly do any harm, and the little time that it consumes does not amount to very much, so far as the patient is concerned.

Dr. E. Wyllys Andrews:—The point made by Dr. Hessert is of serious importance. I have not had any dangerous hemorrhages from stumps that were closed by plastic methods in clean cases; but I have seen slight hemorrhages, which were stopped quickly on the operating table, and it is obvious that if this surgical work is done blindly, as, for instance, through small incisions, a dangerous hemorrhage may immediately occur. Cases where such an accident occurred

are credibly reported. I recall three cases, in which hemorrhage took place later than at the operating table. In two cases fatal hemorrhage followed, probably from a vessel at or near the lumen of the appendix, at or about the time of the removal of the first gauze packing. Both of these cases occurred in my hospital practice. One of them was a patient of Dr. McGaughey's and, at first, there were no dangerous symptoms, but, shortly after an interne had removed some gauze strips, the hemorrhage took place. There was an abscess and perforation of the appendix in that case. The other was a two weeks' old case, also with gauze drainage. The third case was in the practice of Dr. Thomas, of this city, and myself, a case of perforation of the appendix which had not been operated on. The patient was being treated by the Ochsner method, and was rapidly improving after a discharge of pus into the colon, so that it was not necessary to drain it through an incision. While the patient seemed to be improving rapidly, he suddenly collapsed, followed by rapid death. Dr. Thomas secured an autopsy, which disclosed a perforation near the base of the appendix. There was a secondary hemorrhage into the cavity and into the colon, from which the patient died.

One method of removing the appendix is by shelling out its inner coats and leaving its outer or peritoneal coverings *in situ*. This leaves the vessels uncut, also the adhesions. Doubtless many surgeons have used this method. It is excellent in cases in which the mesenteriolum is matted down and shortened, making it difficult to ligate it. I can recommend it as an easy solution of the adhesion problem. Whenever the adhesions look dense and dangerous to separate, I leave this and enucleate the musculo-mucous tube, which is always easy.

Dr. D. W. Graham:—I have had two cases of serious hemorrhage following appendectomy. In one the lower abdomen gradually filled up with blood clot, and, at the end of 24 hours after the operation, the wound was reopened and enlarged and the blood removed. The source of the bleeding was found to be an omental vein. It was one of those cases in which the inflamed appendix was superficial and wrapped up in the free end of the omentum. Undoubtedly, the vein had been torn in separating the appendix from its omental bed, but the rent had not been discovered or suspected at the time. The other was one of acute suppuration, deeply seated. The mesentery of the appendix was ligated *en masse* and the appendix itself was tied off at the base without any attempt to invert it or cover it in. Rubber tubing was used for drainage, but no gauze. The tube was shortened the second day and entirely removed soon after. In clearing out the clots a catgut ligature, still tied, was found, which seemed to be the one I had placed around the base of the appendix, though it may have been the other one. It had come away by sloughing and a true secondary hemorrhage had followed, of that type in which the clot in the lumen of the vessel breaks down in the presence of pus. As there is no blood vessel concerned in the ordinary operation for appendicitis large enough to give rise to a serious, sudden hemorrhage, my conclusion was that blood had been accumulating for some hours within the abdomen and was finally forced out through the wound, thus giving the appearance of a sudden profuse hemorrhage. I believe Dr. Hessert in his paper makes no reference to either of these types of hemorrhages I have mentioned. To me, the easiest, simplest, and best way of treating the base of the appendix is to cut it off on a level with the surface of the cecum and then close the opening with Czerny-Lembert sutures, as we would in a bullet wound. This method is not applicable to all cases; only to those in which the parts are easily accessible or can be brought to, or into the wound.

Dr. Daniel N. Eisendrath:—I tried to pay particular attention to the class of cases to which Dr. Hessert has referred, and especially since reading the article on the anatomy of the appendix in Kelly's book, I have noted particularly the distribution of the cecal vessels, to which Dr. Hessert has called our attention, and which, in all probability, was the cause of the fatal hemorrhage in his cases. It is something which we can observe in nearly every case and possibly may be able to avoid. These vessels can be plainly seen in the majority of cases traversing the ileocecal fold, passing over to the base of the appendix from the cecum.

In such cases, avoid puncturing these vessels, in ligating the mesoappendix. There is one point to which enough attention has not been paid. It we take, for instance, a cross-section of the appendix, showing the principal arterial supply of the appendix, we will find that the vessels penetrate it at right angles to its long axis. In watching inexperienced operators, I find it is their custom to include only a portion of the serous coat in the purse-string ligature. An important point in preventing hemorrhage is, if possible, to make the purse-string suture deep enough to enter the submucous coat. We get a peculiar fibrinous resistance, which is characteristic of both the submucous and muscular coats. In this way you catch all of the vessels.

In a recent case, I observed this anomalous artery, of which Dr. Hessert has spoken. After the stump was cauterized with carbolic acid, and had been clamped to see if there was any further bleeding, I noticed a little oozing from the submucous layer and inserted a catgut ligature in the side of the peritoneal cuff before inverting it. I believe an important point is to go in deep enough to the submucous layer.

Dr. A. E. Halstead:—I have had one case of severe hemorrhage after appendectomy, and, in that case, I believe the hemorrhage did not come from the stump, but from a vein. Many times, in passing a purse-string suture, we may puncture a large vein and have quite a large hematoma form, underneath the peritoneum. This is difficult to avoid, in some cases, where the veins are large and unusually numerous.

The method I practice in dealing with the stump is practically the same as that outlined by Dr. Harris. A point I would emphasize is, that in all cases, the ligature should be passed around the stump. We should not trust to crushing the stump in controlling hemorrhage. If the ligature is passed through the base of the appendix, it can not slip, and it is a valuable means not only of controlling hemorrhage, but at the same time of controlling the lumen of the appendix. The purse-string suture should be of linen or silk. I have had one fatal case, following the untying of a catgut ligature, as demonstrated postmortem. The patient was a child. Forty hours after operation, the child was given a dose of castor oil, shortly after which there were symptoms of peritonitis, and, inside of twenty-eight hours, the child died of general peritonitis. The postmortem examination revealed the fact that the ligature had become untied.

Dr. D. A. K. Steele:—I have been fortunate not to have seen, in my own operative work, any cases of hemorrhage following appendectomy. But they do occasionally occur. The method I have followed has varied as we have progressed in the technic of the operation, first doing the cuff operation, always folding back the cuff, tying the stump, and bringing the cuff over the Lembert sutures, then, a little later, doing the crushing operation, crushing the base and inverting it with purse-string suture, tying first, then inverting and burying the purse-string suture, first with silk, and later with catgut. In operating, I have followed either that method or the more recent one of cutting off the appendix, having the cuff or base crushed, and then with circular purse-string suture perforating all of the coats of the vessel with the first purse-string suture, tying it tightly with No. 2 catgut, and using No. 1, smaller, finer, for the second purse-string suture, the second suture simply taking in the peritoneal layers. I believe this method was first described by Dr. Charles Davison, of this city. My results have been excellent by this method. The essential points in the operation have been brought out, one of which is that the incision should be large enough to see what we are doing. We should not operate through too small an opening, but we should be able to bring the parts we are operating on to the surface, so that we can see how to apply the ligature, and the perfect occlusion of the appendix stump. We should further see that no raw surface is left, and no vessel on the surface which is not included in the ligature.

Dr. William Hessert (closing the discussion):—I have tried the method that was first used by Dr. Harris, but still believe that in those cases of postcecal situation of the appendix, where the blood supply is atypical, where there is a distinct mesoappendix, the Harris method is hardly the safe one to adopt, and I feel

safer, after operation, when I know that the base of the appendix has been crushed and ligated, knowing that the danger of infection from the stump is slight, and that the danger of hemorrhage is absolutely done away with.

REMARKS ON A FEW DISORDERS OF SLEEP.

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(*Abstract.*)

The first disorder described has been called nocturnal palsy, night numbness, sleep numbness, waking numbness and acroparesthesia nocturna. The patient wakens in the night, with one or more extremity numb, tingling and more or less paralyzed. This paralysis may be complete, but it is of short duration. After some minutes of rubbing, slapping, shaking, etc., normal sensation and motion return and the patient is able to go to sleep again. When the trouble is hemiplegic in distribution, it very closely simulates an apoplectic attack without loss of consciousness and may seriously frighten the patient, as well as give considerable concern to the medical attendants. The causes of this disorder, approximately in the order of their importance, are neurasthenia and general nervousness, malnutrition and general debility, the menopause, rheumatism, cold and wet, anemia, arteriosclerosis, hysteria, tobacco, gastrointestinal disorder, gout, Bright's disease and diabetes. Dr. Hartung informs the author that he has known of one case caused by pregnancy.

The next disorder considered was what the author called painful awakenings. The patient wakens suddenly, with a feeling of intense apprehension or panic, as if something dreadful were about to happen or had just happened. There is apt to be palpitation, tachpnea, generalized tremor or, more frequently, a sensation of trembling without visible tremor, sometimes cold perspiration and a feeling of great prostration. As nearly as may be ascertained, these attacks have no relation to nightmare or bad dreams. They occur principally in the course of functional nervous disease and, although most distressing, not to say alarming to the patient, are entirely innocuous, and nearly always disappear with successful treatment of the general nervous condition. However, sometimes heart disease, Bright's disease, arteriosclerosis or adenoids stand in a causal relation to the disorder.

The author then described different types of what he ventured to call indormescent shocks. They are so called because they occur just as the patient is falling asleep or immediately after. They may be divided into motor and sensory, although sometimes the two are combined in the same patient or in the same shock. In a very mild degree, the motor shock is familiar to everyone, simply consisting of a sharp muscular start or jerk about the time one is falling asleep. The starts in this degree may be called physiological, as nearly every person has experienced them, but they sometimes reach an intensity which makes them distinctly pathological. In such a case, the sudden muscular contraction may be so violent and so generalized as literally to throw the patient into the air and turn him over in bed, and in some cases, these jerks may be repeated ten or twenty times before the patient finally passes into a sound sleep. The sensory shocks are very apt to be related to the special senses. A typical case was that of a neurasthenic patient, who was wakened by what seemed to be the discharge of a pistol inside of his head. He was conscious of a tremendous crash, like an explosion, and, at the same time, apparently saw a vivid flash of light. He sprang from the bed, was terribly frightened, sat up the rest of the night and, for weeks thereafter, retired with great timidity, lest there should be a recurrence of the phenomenon. Another patient, a middle aged woman, had a sensation of having received a violent blow on the head and she felt certain that someone had struck her such a blow. In intense agony, she waited for the second, which she felt would follow instantly, but, after a time, realized that it was purely a sensation and that she had received no bodily harm. Still another patient was suddenly wakened by what seemed to be a great flash of light, and another had a sudden sensation in the epigastrium, as if he had received a violent blow in that region.

A neurasthenic and hypochondriacal gentleman, past middle age, was several times wakened by a sound which he likened to a violent and sudden grinding together of two stones, the intensity of the sensation being sufficient to constitute a real pain.

Other instances were related, in all of which the disturbance was sufficient to concern, if not greatly alarm the patient, but the author has never known this particular disturbance to be a symptom of organic disease. The disorder of sleep always disappeared with the disappearance of the nervousness and a return to good general health.

DISCUSSION.

Dr. D'Orsay Hecht:—I did not expect to be called upon, and am but poorly prepared to discuss Dr. Patrick's remarks, but he has given such an exact and full version of a few of these sleep disorders, as to leave little or nothing to discuss. While an enormous amount of study has been applied to problems relating to the quantity of sleep, all too little attention has been accorded its quality. Insomnia, which in some degree or other, appears to be, owing to our present commercial and social system, a most prevalent affliction, has been investigated with great persistance, chiefly with a view to finding a panacea. The qualitative deficiencies have proven either too subtle or seemed too insignificant to engage the serious attention of clinicians, and so it happens that physicians are first attracted to these phenomena by the fears entertained and expressed by those afflicted. Dr. Patrick put the matter correctly when he said that patients become thoroughly frightened when overwhelmed by these nocturnal sensations and come to regard them as manifestations of some serious organic disease, ofttimes apprehending a fatal termination.

Dr. S. Weir Mitchell, in his original citation of these disorders in 1890, makes no allusions to the "painful awakenings" described to-night, nor would any of the hitherto formulated sensory shocks cover this observation. It would seem, then, that another has been added to the earlier recognized sleep disorders.

Of the acroparasthesias, I have seen none that are in agreement with those referred by the speaker as "nocturnal." The several patients, as I recall them, were all middle aged women, arrived at the menopausal period, whose occupations kept their hands much in water and whose parasthesias were entirely confined to the hands and forearms. Nothnagel's explanation of these parasthesias, on a vasomotor basis, is, I believe, the most reasonable one yet offered. That they must be sharply differentiated from sensory disturbances of cerebral origin and not confounded with the parasthesias of peripheral neuritic type, goes without saying.

Not infrequently these phenomena are wrongly held to be nocturnal types of epilepsy initiated with sensory aura and, then again, these sensory impressions, when characterized by hallucinations and delusions in the prae-dormitium, and extending over long periods of time, are wrongly construed as evidence of impending insanity. When once properly estimated by the practitioner, their harmlessness must be frankly emphasized and such reassurances as follow are immensely comforting to the patient, his family and friends.

May I add that Dr. Patrick's choice of the term "indormescent" appeals to me as more exact than Mitchell's præ- and post-dormitium shocks, since, after all, these irregular phenomena arise with impending sleep, during sleep and upon awakening. Sleep, after all, is a very individual thing, and I am glad to have heard Dr. Patrick enunciate in his own inimitable way a few departures from the normal.

Dr. Frank S. Johnson:—The sleep disturbances, so interestingly described by Dr. Patrick, are observed, in some phases, by us all. They seem to me to be due to several causes. The primary or fundamental condition is the increased nervous irritability of which Dr. Patrick spoke. It comprises a tendency to incoördinate an unnatural activity incident to the effects of illness, of auto- or other intoxications, of exhaustion or the effect of injury on the nervous system. The final factor seems to be the withdrawal in sleep of the inhibitory influence exerted by higher brain areas over lower functional centers. Contributing factors may

arise from organic disease or other disturbing conditions. Cases of nocturnal cardiac palpitation may be cited in which the attacks are associated with general tremor and even severe fright upon waking. They occur in nervous individuals, particularly in those who have acquired organic changes in heart or arteries, or who are under some toxic influence; indeed, exciting and predisposing causes seem sometimes inseparable. But for the production of active manifestations sleep is the passive and prerequisite condition; through it is the unreining of restive motor and sensory areas. I have in mind a patient much debilitated by several months of painful illness, requiring the regular administration of morphin for several weeks; when this was withdrawn by gradual dose reduction the patient was in a very unstable nervous condition. He was often aroused from the first stages of sleep by sharp or even violent muscular contractions, often accompanied by an auditory phenomenon, a sense of crashing noise. At the same time he had visual sensations of brilliant flashes of light. This case was an exaggerated instance of profound nutritional disturbance, and the nerve tissue must have been excessively irritable. The explosive discharges sometimes occurred even before consciousness was fully lost in sleep.

Dr. Patrick, in closing the discussion, said:—I agree entirely with Dr. Johnson that these cases occur nearly always in patients in whom there is a disturbance of nutrition; but in studying them carefully and in treating them in various ways and watching the results of treatment, I have come to the conclusion that nutritional disturbances are not the only factors. Nutritional disturbance is not sufficient to explain the symptoms which many of these cases present; there must be, in addition, some functional nervous disorder which I think is not dependent directly upon poor nutrition. This also applies to the toxic cases.

(A) AN EASY METHOD OF EVACUATING THE CONTENTS OF THE STOMACH INTO THE DUODENUM; (B) NORMAL LAVAGE WITHOUT A STOMACH TUBE; (C) RELATED THERAPEUTIC HINTS ON ABDOMINAL GYMNASTICS; (D) DEMONSTRATIONS.

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The presence in the stomach of residual chyme or of partially digested food long after the organ should have completed its task and emptied itself by normal peristalsis is frequently a source of more or less discomfort. This may be only an occasional condition through attacks of indigestion incidental to errors in diet; through temporary functional disturbances secondary to psychic influences or through physical exhaustion. It is the rule in chronic hypopepsia, hyperchlorhydria, gastric atony, dilation, gastroptosis, and constitutional causes. Symptomatically, there is a sense of epigastric fulness and discomfort, with or without pain. Acid eructions of gas or fluids from fermentations of stomach contents often occur. Sudden changes in position or deep palpation of the abdomen may elicit splashing of the fluids in the organ. Wakefulness on retiring, restlessness in sleep, or unpleasant dreams may be experienced. Whenever the individual becomes conscious that the stomach is retaining food beyond the limits ordinarily required for digestion, from whatever cause (pyloric obstruction excepted), relief can be obtained in a few minutes by evacuating the stomach in the normal direction, without loss of nourishment or the disagreeable features of an emesis. This can readily be accomplished, at will, by physical expulsion of the contents through the pylorus into the intestinal canal, where they properly belong.

(A) METHOD OF EVACUATING THE STOMACH.

The following method, which, so far as I am aware, has never been described, will give definite and satisfactory results. The patient is instructed to take the recumbent position upon the right side, in order that the stomach contents may gravitate to the pylorus. While in this position, strong rhythmic contractions of

all the abdominal muscles should be made. To put it tersely, let the patient try to make his "belly button" touch his back-bone. Twenty or thirty such impulses, with the assistance of awakened peristalsis on the part of the stomach itself, will serve to express the contents through the pylorus. If, moreover, the diaphragm be fixed and rendered tense by a deep inhalation and the breath held during a few strong contractions of the abdominal muscles, each prolonged for a few moments, the belated contents will be literally squeezed out through the normal channel, much to the relief of the distressed organ and the immediate comfort of the patient. The knack of doing this little stunt is easily acquired and is well worth knowing. The process is a combination of alternate compression and physiological syphonage. It is a voluntary, reversed emesis, with no disagreeable features or inconvenience. If the condition is not relieved, after a few minutes rest, these movements should be repeated. The desired end can scarcely fail to be accomplished. It will often serve as an antidote for the discomforts of a late supper, effectually bar the nightmare, and put to flight the morning "red raven."

(B) NORMAL LAVAGE WITHOUT A STOMACH TUBE.

It is now quite evident that the same process is applicable for the purposes of stomach lavage, with the advantage of doing away with the very disagreeable introduction of the stomach tube, in all but a limited class of cases, and the attendant choking and retching reflexes, with positive dangers in gastric ulcer. How uncomfortable or even painful the introduction of the tube may be, any one may demonstrate by thrusting one down his own throat and retaining it through a séance. A pint of some suitable alkaline solution, an effervescent one, if agreeable, should be ingested, when the stomach is empty, preferably before breakfast, or even better, before rising from bed. Evacuation into the duodenum is then immediately accomplished, as described above. A more complete cleansing of the mucosa of the stomach is induced by this method than can be done by the tube, because of the vigorous active massage of the organ and the stimulation of normal peristalsis, aided by the solvent properties of the alkaline solution upon the adherent mucous secretions. This easy, comfortable method of lavage, repeated each morning for a definite period, is of the greatest benefit in every condition in which it is indicated, for therapeutic purposes. When constipation exists this alkaline solution may be an effervescent laxative as well.

(C) RELATED THERAPEUTIC HINTS ON ABDOMINAL GYMNASTICS.

Inasmuch as preventive medicine is the acme of our art, it is quite appropriate, in this relation, to describe certain abdominal gymnastic exercises, which may not only be curative, but prophylactic of the conditions to which allusion has just been made. There is a very large class of individuals of sedentary habits among urban populations, whose abdominal walls are more or less flaccid and whose abdominal viscera are torpid, for causes which are not far to seek, chiefly among which are lack of muscular exercise; faulty dress, especially the corset; gestation; obesity and plethora from over indulged appetite, with attendant faulty metabolism and autotoxicity. Five minutes of daily routine attention to a few simple rules of exercise at the bedside, without apparatus or inconvenience, will go a long way, if not all the way, in correcting many functional ills of the abdominal viscera and the prevention of organic ones dependent upon impaired functions.

Many well-to-do people resort to professional massage, more often as a luxury and a fad, perhaps, than for any scientific therapeutic indications. But no amount of passive massage can supply the place of voluntary muscular exercise. It has its appropriate place, to be sure, and does promote muscular, cutaneous and organic circulation; but active, voluntary, systematic exercise only, can increase and maintain the contractile power, resistance and structural growth of muscle fibers. No amount of muscle rubbing and rolling, or pinching and patting could develop even a mediocre amateur athlete. The abdominal muscles and musculature of the gastro-intestinal tract are governed by much the same laws which obtain for the larger skeletal muscles, and the daily active exercise of this group of muscles, in my estimation, is of the highest importance to those whose

calling is a sedentary one, and whose visceral functions are consequently more apt to become impaired.

Before describing a short series of exercises, let us refer to a universal instinctive habit of animals, which rational beings may imitate with the greatest advantage. Observe the first movements of a horse, dog, cow or cat on arising from rest or sleep. Deliberately it proceeds to hump its back and stretch its body fore and aft, putting all its muscles into rigidity. Each set of flexor muscles is placed in strong counter resistance to the corresponding set of extensors, while it yawns, in the meantime, to thoroughly ventilate its lungs. This is a normal, healthful series of exercises, which the animal never omits, if it is allowed its own volition. A routine morning observance of a similar natural exercise should prelude all other activities of the day. We may begin, before rising, by extending the arms and legs rigidly for a few moments under the cover; then, twenty to thirty strong abdominal contractions may be made, while lying on the back, as already described. Now, with the arms folded across the chest, the legs and thighs extended, lift the body to the sitting posture and then lower it slowly to the reclining one. On arising from the bed a few deep inhalations should be taken, after which, stretch the arms over the head, and, while gradually lowering the strongly flexed arms and clenched fists, execute a good wholesome yawn. This is nature's instinctive way of expanding and ventilating all the remote air cells of the lungs. We are now ready for four important movements for the exercise of the abdominal walls and contained viscera, remembering the while to take deep inhalations. First, drop the body to the squatting posture, with the palms touching the floor, then rise quickly to the erect position. Second, with arms akimbo and heels together, rotate the body, now to the right and then to the left, as far as possible in either direction without moving the feet or lower extremities. Third, with arms extended above the head, lean backward and then bend forward, without flexing the knees if possible, until the finger tips touch the floor. Fourth, incline the head to the left shoulder as far as possible, with the left arm crossed behind the back and the right crossed low in front, then reverse to the right side. Each of these movements may be repeated consecutively, ten or twenty times, while breathing deeply at each inspiration. The movements in bed are especially useful for strengthening the abdominal recti muscles, the rotary ones for the oblique, and the bending and squatting movements for the deep active massage of all the abdominal organs.

The importance of the effects of this method of massage on the lymphatic system is not secondary, perhaps, to any other of its resultant benefits, and is inadequately appreciated. The effects on the blood circulation are at once apparent, but there is also a lymph circulation whose canals vastly outnumber the veins of the body. Aside from the large glands of the abdominal cavity, no other territory of the body is so richly endowed with lymphatic vessels and aggregated neural and organic ganglia. This comprehends the lacteals and mesenteric glands, as well as the splanchnic ganglia of the sympathetic system and the special lymphoids of the intestines themselves. All of these are accessible to and readily influenced by the exercises described. Stimulation of function must, of necessity, follow improved venous and lymph circulation in every organ of the abdomen, whether digestive, excretive, secretive, absorptive or neural. Awakened gastro-intestinal peristalsis is often evidenced after one of these séances by rifting of gases from the stomach, by the sensation of fluids and gases propelled along the intestinal tract, and not infrequently by an immediate desire for the stool.

A daily observance of such a program as the above, with especial emphasis on the word daily, will put one in excellent trim for breakfast, and its reflex benefits will be felt throughout the affairs of the day. Deeper inhalations will become automatic, vigor will be imparted to the portal circulation; indigestion, faulty metabolism and toxicity will be relieved; hepatic insufficiency remedied, and abdominal obesity reduced. The aphorism of a noted English physician who used to declare that "the best thing for the inside of a man was the outside of a horse," was replete with good philosophy. The exercises outlined are a fairly good imitation of the rocking and jolting motion imparted to the abdominal organs

by horseback riding. After three years experience the author has found this plan to yield better results in appropriate cases than any other routine drug treatment alone can possibly accomplish.

100 State Street.

DISCUSSION.

Dr. Fenton B. Turck:—It is unnecessary for me to discuss this excellent presentation, because the method that has been outlined has been in existence for a great many years. This method of exercise and massage is very ancient, one of the earliest methods we had; and the drinking of water and bicarbonate of soda is also a very old method. However, we all recognize the fact that it is very essential to have some one bring up these old methods at times and invest them with some new features, and this Dr. Burr has tried to do.

Meeting Oct. 24, 1906.

A regular meeting was held Oct. 24, 1906, with the president, Dr. George W. Webster, in the chair. The subject for the evening was a symposium on "Renal Calculi." Papers were read as follows: 1. "Etiology and Symptomatology," by Dr. C. L. Mix. 2. "Roentgen Diagnosis of Nephrolithiasis," by Dr. Max Reichmann. 3. "Medical Treatment," by Dr. Alfred C. Croftan. 4. "Surgical Treatment," by Dr. Arthur Dean Bevan. The discussion on this symposium was opened by Dr. James B. Herrick, and continued by Drs. Arthur R. Elliott, Victor J. Baccus, and Carl Wagner.

DISCUSSION.

Dr. James B. Herrick was asked to open the discussion in the absence of Dr. Frank Billings. Dr. Herrick said:—I know few diseases which, at this time, present greater difficulties in making a positive diagnosis than renal calculus. As Dr. Mix has told us, we not infrequently have patients come to us with indefinite pains in the back, and even after the most careful and painstaking examination we are not able to tell whether or not a calculus is present. So, too, we see patients with paroxysms of pain and it is not possible always to tell whether the pain originates in the kidney or not. We know, too, that the differential diagnosis between gallstone colic and the pain of gastric ulcer and that of renal colic is not always easy. It reads well in the text-books, but in practice we all know that it is many times extremely difficult. Then, again, even though we have located the pain as originating in the kidney, it is difficult, many times, to be sure that the pain and hematuria are associated with, and caused by a renal calculus. It is only by a most painstaking and careful observation and examination of patients that we are able to exclude such diseases as tuberculosis and tumors of the kidney, Dietl's crises, or those obscure cases of so-called essential renal hematurias. Since the use of the *x*-ray, an immense amount of aid in the matter of diagnosis has been furnished us, and, as Dr. Bevan has said, the positive results from the *x*-ray are almost absolutely convincing as to the presence of a stone or stones. I am not quite as optimistic as he, regarding the value of the *x*-ray in excluding stone. In fleshy individuals, in patients with soft uric acid stones, in patients with very small calculi, I can readily see how the *x*-ray fails to reveal them, and in some cases where I have been morally certain that the patient had calculus, the *x*-ray has not shown a calculus, and the diagnosis has only been a presumptive one.

I was glad to hear Dr. Bevan speak of the possibility of error in the interpretation of skiagrams. An instructive case came under my observation not so very long ago, of a middle-aged man, who was treated by his physician for what seemed to be a severe attack of appendicitis, from which he recovered. He went east and had a second attack of severe pain, passed blood and pus in the urine, developed temperature, and was told he had a renal calculus with pyelitis. When he returned the hematuria was present intermittently; pyuria was present, and an *x*-ray examination showed two distinct shadows that seemed either in the lower pole of the kidney or possibly in the ureter. The patient was operated on, I believe, by Dr. Ochsner, and, at the operation, appendicitis was found, with the appendix closely adherent to the ureter. The shadow was thrown by two phlebo-

liths (two stones in the vein). I believe they were the mesenteric veins. Perhaps Dr. Ochsner, who is present, can give us more accurate information. Phleboliths in the veins of the pelvis of women are not so rare, and we can understand how a shadow thrown by these might confuse us as to the presence of stones, particularly in the ureters. The fact should be remembered that cases of appendicitis, with pain and hematuria, may simulate renal colic.

I was glad to hear Dr. Bevan and Dr. Croftan speak rather slightingly of certain very refined methods of diagnosis, such as the use of the wax-tipped catheter, and sounding the pelvis for stones, and I include also distension of the pelvis with boric acid solution. It seems to me that these must be scientific refinements, and methods that chiefly show the remarkable manual dexterity of the operator. Occasionally a little rather sharp manipulation of a kidney that contains a calculus will result in the passage of blood in the urine. This might be called diagnostic palpatory hematuria.

Dr. Mix and other speakers have referred to infection of the urinary tract, particularly of the pelvis of the kidney, as a possible factor in the causation of stone. While a good many of the facts along this line have not been definitely proven, there is enough evidence to warrant one in saying that in every case of typhoid fever we should give urotropin. Bacilluria in typhoid occurs in 25 or 30 per cent. of cases, and is a source of danger to those about the patient; and this bacilluria can continue for months and years after the cessation of the fever. But, more than that, the presence of the typhoid germs in the patient's urine, and, presumably, in the pelvis of the kidney as well as in the bladder, may possibly mean the later formation of stone, as Dr. Mix told us, after the analogy of the formation of gallstones. Hence the propriety of giving urotropin during typhoid convalescence as a prophylactic. Dr. Mix also referred to the presence of calculi in connection with and due to neoplasms, and I have wondered whether possibly the equation may not be a reversible one, that is, whether a calculus may not occasionally produce a neoplasm in the same way that gallstones are regarded as irritants, which may lead to the development of new growths. I suppose that a medical man ought to feel out of place in speaking on the subject of renal calculi. I agree with Dr. Croftan when he says that the medical treatment of renal calculi, after the calculi are established, is rather microscopic; and yet we shall always have left a few patients with renal calculi to treat. I think it will be some time before we shall not have some of the surgeons to treat when they have renal calculi. It really gives a medical man a shock to be called in these surgical days to treat a surgeon for gallstone colic. And no less startling is it to see how often the surgeon, under such circumstances, will not take the medical man's advice to have the gallstones removed by the knife. Every once in a while we see a surgeon who advises medical treatment for his colleague, afflicted with renal calculus, and who will hesitate a long time before he advises an operation. All of which goes to show that it is as hard for the surgeon as it is for the physician to take his own medicine or to prescribe for members of his own family or for those near and dear to him.

Dr. Arthur R. Elliott:—I do not think it is necessary for the medical man to enter any disclaimer, when requested to take part in a discussion of the treatment of renal calculi. There is no doubt from a therapeutic standpoint that a case of formed calculi belongs to the surgeon. There is nothing to be accomplished by solvent treatment; but to dismiss a case of well-formed renal calculus as belonging therapeutically to surgery is rather too final. It is to be remembered that surgical treatment in a case of renal calculus is merely an incident, and not an end. After the calculus is removed the patient should return to the physician, because he still remains a potential case of renal calculus. The formation again of calculi in the urinary passages as the result of anomalous urinary conditions which persist after operation is possible in any case which does not receive prophylactic treatment and the case may, recurrently, come under observation for a condition similar to that for which he was operated on.

From a medical standpoint, the aspects of nephrolithiasis which appeal most strongly for discussion are the questions of diagnosis in obscure cases, pathogen-

esis, and the prophylactic treatment. The term "quiescent stone" has been used. I think the term is based upon a misconception. I do not believe there is such a thing as "quiescent stone." Cases without symptoms? Yes, but not cases without signs. Every case of stone, in my experience, has yielded evidence of stone under prolonged observation. Symptoms are, notoriously, an insecure foundation for diagnosis of stones in the kidney. The urine furnishes us a reliable criterion for the foundation of a well-formed suspicion, which is to be verified by the *x*-ray and other accessory means of diagnosis. The pain, as has been referred to by several speakers, is eccentric in its distribution, and may be entirely absent, even in cases where a stone of considerable size is present in the pelvis of the kidney. The pain of renal colic only becomes significant and of value in diagnosis, when it is more or less persistent, when it is influenced by rest and activity, and accompanied by microscopic hematuria, which is also influenced by exercise, etc.

Until recently, in my more limited experience, I shared the belief and confidence in the results of *x*-ray examination, that have been expressed by Dr. Bevan; but, within the last eighteen months, I have been unfortunate enough to have had two cases operated on by surgeons of repute in this city, which were positively diagnosed, both from the urine and by *x*-ray examination by a thoroughly competent radiographer, as instances of renal calculi, in which thorough exploration of the kidney in both cases failed to reveal any stone. There was a well-defined shadow. The differentiation was good. A number of plates were taken of each case, and all of us, the operator, radiographer and myself, diagnosed stone. Blood was present in the urinary sediment in both instances, and pus in one of the cases. One had had two attacks, apparently, of calculus anuria, and the other had had side ache for a number of years, and at least one attack of what was, apparently, typical renal colic; yet thorough exploration of the kidney failed to reveal a stone. I should like to ask Dr. Bevan or some other expert interpreter of radiographs for a probable explanation of these cases.

In Dr. Mix's remarks on the etiology, he inadvertently left out reference to the urinary conditions which cause calculous formations. He referred interestingly to the possibility of bacterial infection being an underlying factor in the formation of stone, but did not refer to the fact that bacterial infection was an inoperative factor except in the presence of certain urinary conditions. Stones will not form unless the urine be appropriate for the precipitation of crystalline elements. Chemically speaking, it is an impossibility for uric acid to form in alkaline urine, whether bacterial infection be present or not.

I was very glad to listen to Dr. Crofton's interesting exposition of the prophylaxis in uric acid calculus. I am sure you must all share my regret that he did not extend his remarks to the prophylactic treatment of other forms of renal calculus. The action of carbonate of lime which he demonstrated so interestingly and, apparently, so conclusively, I have had but little experience with. I treat uric acid formations in a rather old-fashioned way. There is a simple measure, one that emanated from Sir William Robert, which I have adopted with a degree of satisfaction. Sir William Robert says that if we take care of the night urine in cases of uric acid, calculus or gravel formation, the day urine will take care of itself, for the reason that renal drainage is good during the day when the patient is in the upright position, and the urinary activity does not rise high because of the percentage of salts taken at the various meals of the day. Moreover, the consumption of water provides for diluting the urine. These combined factors keep the urine from precipitating uric acid crystals during the day. On the other hand, during the night, the recumbent position results in poor drainage; the urine becomes concentrated, perhaps highly acid, and it is the night urine which precipitates crystals; consequently, I am in the habit of directing patients to take a copious draught of water containing some simple alkali, like citrate or bicarbonate of potassium, at bed time. This will create a diuresis, so that the patient will have to get up toward the middle of the night to relieve the bladder, and he then takes another free draught of some simple alkaline solution, which takes care of the urine for the remainder of the night. This simple precautionary

measure is all that is necessary to keep the urine free from uric acid. In simple cases, it is ordinarily all that is required.

Referring to oxalate of lime calculus, or the precipitation of calcium oxalate in the urine, it is interesting to note that it is usually associated with intestinal malassimilation, and the diagnosis, in a case of oxalate of lime calculi or gravel, should include a thorough investigation of the intestinal canal, because bacterial fermentation will be found and imperfect elimination from the colon, and much value in treatment can be secured by thorough hygiene of the bowel, getting the colon empty, and so regulating the diet as to keep down fermentation. The use of sulphate of magnesium, given in doses of thirty or forty grains during the day, will assist materially toward the control of the precipitation of calcium oxalate.

Cases of phosphaturia are constantly coming under observation, where the urine is alkaline during a large share of the day, precipitating earthy phosphates. Such cases are very apt to form stone, and it will be found on investigation that these patients are usually neurasthenics and have very frequently hyperchlorhydria. A careful gastric diagnosis should be made in such cases, and if hyperchlorhydria exists, it should be treated by appropriate dietetic measures.

I wish to make a plea for careful systematic treatment in the prophylaxis of these cases, not as is so often and much too frequently done, to dismiss the patient with the simple instructions to drink more water and eat less meat, but we should fully investigate each individual case and the underlying factors in each case, and treat them in a thoroughly scientific way.

Dr. Victor J. Baccus:—The technic of nephrotomy described is applicable in the majority of cases. However, in stout fleshy subjects with an abnormally thick lumbar wall, the total delivery of the kidney, under the circumstances, is attended with some danger of tearing the renal vein. One of our best surgeons, operating on such a subject, tore the renal vein. This is a serious accident as a repair may not be possible, or the healing may be complicated by a thrombo-phlebitis or sepsis. Either of these conditions, the ligation of the vein or a thrombosis obstructing its lumen, will cause degenerative changes in the kidney which ultimately may necessitate its removal. Cadaver experiments, twelve in number, have taught me that the renal veins will stand a stretching of five to seven cm. It then tears; and the tear most frequently takes place in the distal half of the vessel.

Dr. Carl Wagner:—In regard to the value of the *x*-ray in diagnosing renal calculi, I wish to mention some experience I have had. Some time ago I had a skiagraph taken of a case in which the clinical diagnosis was probably a stone in the kidney. No stone, however, could be seen, nor any shadow of a stone, in this skiagraph. Bearing this experience in mind, I had a second skiagraph taken, inasmuch as the first one was negative. I was reasonably certain, from my clinical experience, that a stone was present in this case, especially since I had spent a few nights at the house of the patient, who had colicky pains. She wanted to be relieved of this constantly recurring suffering. While these two skiagraphs did not show anything, I insisted that there was a calculus present. A third skiagraph was taken and in it was found a stone corresponding to the brim of the pelvis. I made a Czerny incision, exposing the ureter in the manner described by Dr. Bevan, throughout its whole length, and, not finding a stone in the ureter, I went clear up to the pelvis of the kidney, and could not find it there. I went farther down and found hanging over the brim of the pelvis a very resistant, hard mass. In lifting up the peritoneum, which was very adherent, with the ureter, and making an extraperitoneal operation, I found that this mass consisted of a long appendix hanging over the brim of the pelvis. I removed the appendix with the stone. I was positive that it was the cause of the trouble and closed the wound. The next day I asked the patient how she felt, and she replied that the pain was just as severe as it was before. The stone which was found in one of the calices acted as a kind of ball-valve, and obstructed the ureter at its exit from the kidney. The shadow in the third skiagram proved to be nothing more than a fecal stone in the appendix.

Meeting Oct. 31, 1906.

A regular meeting was held Oct. 31, 1906, with the president, Dr. George W. Webster, in the chair. The subject for the evening was a symposium on "Traumatic Rupture of the Abdominal Viscera (Contusions of the Abdomen)." Papers were read as follows: 1. "Etiology and Pathology," by Dr. Emanuel J. Senn. 2. "Symptoms, Diagnosis and General Prognosis," by Dr. D. N. Eisendrath 3. "Special Prognosis and Treatment (a) Injuries of the Spleen, Liver and Pancreas," by Dr. William E. Schroeder. 4. "(b) Special Prognosis and Treatment of Injuries of the Stomach and Intestines," by Dr. E. Wyllys Andrews. 5. "(c) Special Prognosis and Treatment of Injuries of the Kidney, Ureter and Bladder," by Dr. William Fuller (see page 597). The discussion of the symposium was opened by Dr. S. C. Plummer and continued by Drs. Edward H. Ochsner, Victor J. Baccus, L. L. McArthur, C. C. Rogers, and in closing by Drs. Eisendrath, Schroeder and Fuller.

DISCUSSION.

Dr. S. C. Plummer:—I think we can reach the agreement in this symposium that in order to operate effectively, and with any but the smallest chance of success, where there is rupture of one of the hollow viscera, we must operate early. We want then, more than anything else, to know how to diagnose the presence of rupture. And here we meet with the greatest difficulty, and what would the surgeon not give to know whether there is a rupture of the gastrointestinal tract or not. Dr. Eisendrath spoke of the difficulty of differentiating between shock and hemorrhage in some of these cases. That is not the only difficulty we have in diagnosis. For instance, in a case in which we have shock, the question arises, what is the shock due to? Is it due always to rupture of one of the viscera? No; it is not. We know that shock can appear just the same in a contusion of the abdomen where the only visible injury is found to be in the abdominal wall itself, without any sign of injury of the viscera, and when we try to find some pathognomonic symptom to tell us whether a viscus is ruptured or not, we are entirely at sea. In von Bergmann's Surgery, the symptoms of injury or rupture of the gastro-intestinal tract are taken up one by one, and it is stated that the same symptoms may be due to something else than rupture of the gastro-intestinal tract. The only pathognomonic symptom is said to be the presence of gas in the free peritoneal cavity, and the writer goes on to say that it is difficult to recognize the presence of this free gas. So, it seems to me, we must come down to the point of following Dr. Andrews' advice, that when we are reasonably sure we have such an injury, operate promptly, doing the greatest good to the greatest number, taking the chance of making an exploratory laparotomy on a case now and then which we may find does not need it. In speaking of the ruptures of the gastro-intestinal tract, statistics show that they were much more common in the lower portion of the abdomen, more common in the ileum than any other part, and I would like to call your attention to an observation made by Dr. Andrews in a paper recently published, and that is, the influence of the promontory of the sacrum in causing these ruptures. Dr. Andrews has here an illustration which shows just what I was going to mention. There is no object against which the intestine can be crushed when force is directed against the structures of the abdomen from the front, which is so likely to cut the intestine, as the promontory of the sacrum. The rounded bodies of the lumbar vertebræ are quite blunt as compared with this, and the other portions of the pelvis against which the intestine may be pushed are also relatively blunt. It may be, this partly accounts for the greater frequency of rupture of the intestine low down in the abdomen than elsewhere. As to the question of irrigation, I wish I knew how to make up my mind about that. The results of Dr. Andrews with irrigation are good. On the other hand, many surgeons speak of getting better and better results in cases of septic peritonitis without any irrigation by putting in free drainage, low down in the pelvis, and sitting the patient up in the Fowler position. In regard to the necessity for operation for laceration of the kidney, Fenger says that 75 per cent. of cases of contusion and laceration of the kidney recover under the expectant plan. It would seem, then, that in cases where hemorrhage is not an indication for

operation, in cases where hemorrhage is so slight that it does no harm, we can safely wait to see how the case is progressing. Of course, a slight hemorrhage around the kidney does no harm if it remains aseptic; but at the first stage of infection we should do one of the conservative operations which Dr. Fuller mentions. I regard the whole symposium as very complete.

Dr. Edward H. Ochsner:—The subject has been covered so completely by the essayists of the evening that it is difficult to add much to it. There are a few points, however, to which I desire to call attention. One essayist discussed the question of hemorrhage of the liver. My experience in this matter has been limited, but, so far as it goes, it has been to the effect that the stopping of a hemorrhage of the liver is one of the easiest things that we have to do, providing we can get at it. There is where the difficulty comes in. The dome of the liver is so inaccessible that it is difficult to get at the point of hemorrhage, but if the point of hemorrhage is accessible, stopping of the hemorrhage is easy, for the reason that there is no structure in the human body at which blood pressure is so low as in the liver. In the only two cases I have seen hemorrhage was stopped easily by packing, in one instance, and, in the other, by the use of catgut stitches, placing the catgut stitches far enough back and tying them gently. The trouble has been in some of these cases that the catgut stitches have been tied too tightly. Hollander, a Berlin surgeon, has brought out a method of stopping hemorrhage from the liver which seems practical. I have used the method in cases of hemorrhage in other surgical work, and I have found it useful. Since reading his article, however, I have not had a case of hemorrhage of the liver, consequently have had no opportunity to use it for this purpose. He has constructed a hot air machine with which he is able to blow air heated to a temperature of 400 F., which will stop hemorrhage instantly on any surface of the liver. He has resected large areas of the liver for malignant tumors in which he stopped hemorrhage very quickly by the application of this hot air.

There is one form of intra-abdominal injury which has not been mentioned, and this, in my experience, has been rather more common than any of the others, and that is thrombosis of the mesenteric vessels. I have seen three cases of this injury, and it is a very severe one. One, I remember definitely, was an injury due to the kick of a horse, another was that of a man who fell forward over a stump. I do not recall the nature of the injury in the third case. These injuries were extreme. In one instance, the superior mesenteric vessels were so extensively thrombosed that nearly all of the small intestine had become necrotic, because of lack of blood supply. Several of these cases have been reported where a large portion of the small intestine was successfully resected when operation was made quite early.

There is one point which, it seems to me, has not been emphasized sufficiently, and that is, we can have very severe or fatal cases of intra-abdominal injury without the slightest evidence of injury of the external abdominal wall. I have seen two such cases. One patient was a man, who, while using a band saw, was struck with great force by a lath. In this case there was not the slightest scratch or injury to the abdominal parietes externally, yet the small intestine was ruptured. In another instance the handle of a plow struck a man in the abdomen, and while there was no evidence of any external injury, the patient was found to have an extensive rupture of the intestines.

I have had an opportunity to make an observation which I have not seen mentioned in literature, although it could probably be found on careful search. I refer to the peculiar character of the pulse. It is not a question of rapidity, but rather nature of the pulse. I can best illustrate it by citing the following case: Only ten days ago I had this experience: a patient upon whom a gastroenterostomy was performed at 10 o'clock in the morning, had a moderately profuse hematemesis at 3 o'clock. On examination, the patient was found to be in severe shock, and, although the pulse was not over 120, it was of a very peculiar character. It was not the hard, thready pulse that is found in peritonitis, but an extremely soft pulse. It was the kind of pulse that I have repeatedly observed in cases of ruptured extra-uterine pregnancy, and I have wondered whether this

was not Nature's attempt to prevent further hemorrhage, whether, as long as the bleeding has not been completely checked, Nature does not dilate the remaining vessels of the body in order to lower the blood pressure and thus make it possible for a thrombus to form at the bleeding point. I do not refer here to the character of the pulse which is observed just before exitus following severe hemorrhage, but to a condition of the pulse which occurs and which persists as long as the bleeding vessel has not closed, even though the actual loss of blood may have been relatively slight. I immediately placed the patient on the table, anesthetized her, opened the abdomen, made an incision through the anterior wall of the stomach, caught up the gastro-enterostomy anastomosis with my finger, applied a whip stitch to the gastro-enterostomy wound, closed the stomach and abdomen and the patient's pulse showed improvement before the patient left the table, in fact within a few moments after the bleeding vessel had been caught. The pulse remained just as rapid as it had been before, but it became firm and distinctly perceptible, whereas before it was soft and at times imperceptible, though the heart beats could be plainly noticed with the stethoscope. I consider this symptom one of the most important in the diagnosis of concealed hemorrhage, and it is one which I have repeatedly observed, especially in ruptured extra-uterine pregnancy.

If a patient who gives a history of having sustained an injury comes to us and we have reason to believe, after careful examination, that there is either a rupture of one of the viscera or intra-abdominal hemorrhage, we ought to be willing to take the chances of being wrong occasionally in our diagnosis, and, as Dr. Plummer has said, for the sake of doing the greatest good to the greatest number, we should at least make an exploratory laparotomy. If we go in fearlessly in such cases we will make an occasional wrong diagnosis, but we will save more lives than we have saved in the past. We ought to have the courage of our convictions and not be satisfied with making a diagnosis of internal injury and leaving the patient to his fate, but we should do the only rational thing that we can do, go in and repair such injury wherever it is possible. That is the only fair position to take, so far as the welfare of the patient is concerned.

Dr. Victor J. Baccus:—The specimen I will show you is from a case of rupture of the spleen. The patient was a man, 55 years of age, who, in going home at half past 5 o'clock in the evening, tripped on the sidewalk, fell, striking on the region of the stomach. He got up without assistance, went home, and suffered severe pain in the region of the spleen. I saw him on the third day after the accident, when he presented symptoms of abdominal hemorrhage, rapid pulse, anemia, slight abdominal distension, extreme tenderness on palpation, and dulness in the region of the spleen. His temperature was 100°; pulse between 120 and 140. I wish to speak briefly of two points mentioned in the papers. One of the essayists made the point that in cases of hemorrhage of the spleen the bleeding had a tendency to stop, if the rupture is not too severe, and the hemorrhage recurred, as a rule, at the end of forty-eight hours. A second point was that hemorrhage, as a rule, is the cause of peritoneal irritation, and that peritoneal irritation is characterized in some cases by frequent bowel movements. In my case the man had, in addition to the symptoms mentioned, frequent bowel movements, but no sign of peritonitis. He was operated on under spinal analgesia. The incision was made in the median line. I found it was useless to stop to mop the blood out of the abdominal cavity. I quickly passed my hand over the spleen and liver to see which of these organs was involved. I found the spleen was involved and removed it; but the patient succumbed thirty-six hours later. In another case of liver hemorrhage, which I had occasion to see, the patient was not operated on. After a while he was able to be up. His temperature was normal, pulse normal, and he was about to be discharged. The same evening that patient in getting out of bed to step on the floor, dropped dead. I was present at the postmortem examination, which revealed an aseptic healing of the liver, and undoubtedly the sudden getting up from bed caused separation of the liver fragments, hemorrhage occurred, followed by speedy death.

Dr. L. L. McArthur:—To rise and coincide with the general consensus of opinion would be of little value, but sometimes we may profit by relating the mistakes we have made in dealing with this class of conditions. Last year a child was brought into the hospital twelve hours after having been run over. There was no external evidence of injury visible. There were no cutaneous lesions. A little blood was found in the urine. There was fulness in the left flank, and tenderness in the left flank, this dulness changing on change of position. There was some shock. There was great pallor; a weak pulse, with no blood in the stools, no vomiting. With that condition, it looked as if we might have either a rupture of the bladder or a rupture of the kidney. A laparotomy was performed. An incision was made in the median line between the umbilicus and symphysis; blood was found in the free peritoneal cavity rather well diluted, so much so that it was supposed to be the urine that had diluted it, or it may have been serum. Putting the child in the Trendelenburg position (she was 11 years of age), the intestines gravitated toward the diaphragm. Nothing could be seen abnormal in the pelvis; there was no injury to the bladder. The peritoneum lining the left half of the pelvis and up into the left lumbar region showed, definitely, fluid behind it of a bloody character. This was drained extraperitoneally, bloody urine seeming to come from it. Exploring the general abdominal cavity, there seemed to be some blood from the neighborhood of the stomach. The incision was accordingly enlarged, halfway to the ensiform, but no further injuries were found. On the second day after the laparotomy the child began to vomit some blood. Symptoms of intestinal obstruction developed, without intestinal dilatation, tympany or rise of temperature. She gradually grew worse, and finally dilatation of the pleura with gas was detected. The child died. Postmortem examination showed that there had been, in addition to this injury in the neighborhood of the kidney, which we supposed to be the cause of the slight symptoms, sufficient to explain the child's condition, rupture of the diaphragm with hernia of part of the stomach.

Showing how slight a trauma can produce a grave lesion, I had a few months ago a case of a little child, about 10 years of age, who was brought to the hospital on Monday with a history that on the afternoon of the day before, while playing with some companions, one of them pushed him over a box; he fell backwards, striking on the edge of the box, after which he got up, went home, and ate supper, shortly after which he began to complain of pain. I elicited the history of the fall. The next day the child was brought to the hospital with a tumor in the right hypochondriac region, which reached fairly well to the middle line, and which was flat on percussion. The general symptoms presented by the patient were practically negative, other than this tumor. The tumor seemed to be in the abdominal cavity. An anterior incision at the semilunar line, muscle-splitting in character, showed that the tumor was retroperitoneal, and on making a loin incision urine of a bloody character escaped. It seemed sufficient to drain this cavity. Drainage was instituted, and the boy made a prompt recovery, with a fistula in the side, which, at the end of two or three weeks, we supposed would close after taking out the tube, the urine having escaped from the fistula during the time the tube was in. Whenever the tube was taken out the tumor would recur; and whenever it was put back the tumor would go down. After nine months it became necessary to do something to close this fistula, and so, three weeks ago, the abdomen was opened and a sacculated condition of the kidney noticed, the mid-portion of the kidney being, at that time, distended to such an extent that there was not enough good renal tissue to preserve, so the kidney was excised. After excision, a stricture, probably traumatic in character, situated at the portion in which the authors have said it was most likely to occur, was found an inch below the kidney, in all probability traumatic in origin.

One of the essayists called attention to the fact that when the urinary bladder was ruptured, from trauma, peritoneal symptoms would immediately start. This is true, if the vesical content be septic. If, however, the vesical content, either biliary or urinary, be aseptic, it may sometimes collect in such a large quantity in the abdomen, and for a period of three or four days, as to present the condi-

tions of ascites, and then only be recognized as urine or bile. There may be no peritonitic symptoms. It is not necessary, because there is a rupture of the bladder, gall or urinary, that peritonitis start promptly.

As to liver hemorrhage, Dr. Ochsner has emphasized what I found out for myself, that is, after excising about a third of the liver for carcinoma, it was a very easy matter to check a hemorrhage of the liver by merely packing with a Mikulicz sac. The portal circulation is the chief circulation of the liver; that is, a circulation with no heart behind it to force it through, but it is a flow of a capillary character through tubules, for the walls of which it has an affinity. Therefore, slight packing will check it. In most hemorrhage areas that can be packed in the liver, hemorrhage can be checked.

Interesting, again, has been my experience in that I have been called to operate for subparietal injuries of hollow viscera, and have found, on four different occasions, that the peritonitis, which was supposed to be starting from the injury, which was very definite in its history, had not been that of perforation, but had been that of appendicitis. One case was that of a man, who, in running rapidly downstairs, struck the side on a flat knob on the banister. He developed appendicitis, which was called traumatic rupture, with traumatic peritonitis. The second case was a boy belonging to the Yale crew, who in rowing, "caught a crab," i. e., had his oar strike him in the right groin. He developed appendicitis, although his case was supposed to be one of rupture of the intestine. Another man fell on a sidewalk, both feet going out from under him, and his arms going down against his side, over the appendix. He developed appendicitis, although he presented symptoms or characteristics of perforative peritonitis from injuries of the hollow viscera. The symptoms and history in some of these cases make one think that perforation of one or more of the hollow viscera may occur.

Dr. Cassius C. Rogers:—With reference to hemorrhage from rupture of the spleen, the spleen is an organ that is easily accessible. By making an incision along the semilunaris, applying clamps and grasping the splenic artery, hemorrhage can be controlled easily, and the spleen can be readily and quickly removed; and so far as we know, the spleen has no physiological function of importance, and all we have following its removal is a leucocytosis for a short time, after which the patient gets along normally.

I have had one case of rupture of the common duct from gall bladder disease. The patient was a very fleshy woman, and a great deal of time would have been required to suture the common duct, so I ligated the common duct and anastomosed the gall bladder to the duodenum. She got along nicely; she has had no trouble from it at all, and it is much easier to do than to try to suture the common bile duct.

In cases of rupture of the kidney, not infrequently the rupture does not extend into the pelvis of the kidney, but we get hemorrhage into the pelvis, and this hemorrhage is liable to stop up the ureter, and we get an accumulation of urine in the pelvis of the kidney which results in hydronephrosis. In all cases where the rupture does not extend into the pelvis I deem it advisable to extend the rupture by incision into the pelvis and drain, as in pyonephrosis.

Dr. Eisendrath (closing the discussion on his part):—There are one or two points I would like to speak about, first in regard to a statement made by Dr. Ochsner. I think Dr. Crile has shown that the effect of a severe hemorrhage is to paralyze the vasomotor centers, so that the condition of the pulse, which he speaks of, and which I have usually spoken of as an "empty pulse," i. e., one which has no volume to it, the artery being soft, is explained by the paralysis of the vasomotor centers with resultant decrease of vessel tone and blood pressure.

A question which has been brought out by Dr. Fuller is a very important one, whether or not to operate in these cases of retroperitoneal ruptures of the kidney. Trendelenburg in his recent address, delivered in Chicago in May, 1906, reported thirty-five cases of rupture of the kidney, observed in his own clinic, of which twenty-eight recovered without any operative interference whatsoever. He is a decided advocate of non-operative interference in ruptures of the kidney, although he is strongly in favor of it in all other forms of traumatic rupture of

the abdominal viscera. That has been about the policy which I have pursued, and I think for the present it is a safe policy, for the reason, I believe, that we are apt in some of these cases to undertake an operation for a condition which otherwise might have been taken care of by itself. I recall the case of a man who came into another surgeon's service at the Cook County Hospital last January. He had fallen across a plank, and immediately following it he had a large amount of blood in his urine for a number of days, and then a gradually appearing swelling in the renal region. An incision was made into the swelling and bloody fluid was evacuated, which was mixed blood and urine. The case continued to suppurate similar to Dr. McArthur's case, for five months; then he came to my service. I operated on the sinus which was discharging pus, and I found practically nothing left of the kidney except the pelvis of the kidney and a few shreds. It is often a question in my mind whether, when these patients get over the immediate shock if we can make a diagnosis of injury of the kidney, it is not better to resort to conservative treatment except where rupture takes place into the peritoneal cavity. As to the possibility of late complication following kidney injuries, I recall one case in which there was a decided interstitial nephritis following what was evidently a rupture of the kidney ten years before.

Dr. Schroeder (closing the discussion on his part):—With reference to what has been said about conservative operations, I think conservative operating would mean to save the patient's life, if possible. In a case in which there is a complete transverse tear of the kidney, Dr. McArthur said, don't operate, and he didn't. He knew what was the matter. I have twice, in traumatic injuries of the kidney, found the upper pole ruptured. Once I resected a second time; the upper pole was ruptured slightly and sutured. This was a conservative operation, which means save the patient if you can. In this class of cases, if we wait and allow the patients to lie in bed for a week or ten days, there will be no operation. The coroner's statistics on just such cases will stagger you.

Dr. Fuller (closing the discussion):—I have frequently noticed the kind of pulse following hemorrhage as described by Dr. Ochsner, and have also noted the almost immediate improvement in its volume and character, not just after the ligation of the bleeding point, but before it; this I have always attributed to ether anesthesia. Subcutaneous injection of ether will improve the pulse, just as ether will when given for anesthesia. I have often noticed this in operating for rupture in tubal pregnancy and hemorrhages from other sources. In fact, when we recall what the real condition is from the loss of blood, it is very hard to understand how the mere control of the bleeding point would produce almost instant improvement of the pulse.

CHICAGO OPHTHALMOLOGICAL SOCIETY.

Oct. 8, 1906.

DR. GEO. F. FISKE, PRESIDENT.

Dr. F. A. Phillips presented a case of methyl alcohol amblyopia with consecutive atrophy. The patient had spilled about a quart of the alcohol on the floor and over his foot; after remaining in the room several hours he felt dizzy and noticed objects were indistinct; some 12 hours later he wakened after a short sleep to find himself totally blind. Two days later he found the pupils dilated and fixed, vision nil, marked deep tenderness on backward pressure of the bulb, the papilla normal, slight overfilling, especially of the veins. Under treatment vision for large objects returned about the tenth day, and for fingers at four feet in a month. Some atrophy was noticeable two weeks after the onset and was complete in six months. Dr. Phillips thinks the case is one of acute retrobulbar neuritis with strangulation sufficiently near the bulbus to impair the return venous circulation although producing no disc changes.

Dr. Henry Gradle reported the accidental observation of an apparent cure of a case of spring catarrh of some 14 years' duration, while the patient had been using alum spring water freely in the eyes at Hot Springs, Ark. All the discom-

fort had disappeared and a mere trace of the follicles remains in one eye only; both eyes show the typically yellowish, slightly thickened conjunctiva of atrophic vernal catarrh. As the alum spring contains no ingredients which could explain its presumptive influence in this case, the result may possibly be due to the proven radio-activity.

Dr. Thomas Faith showed a case of marked arteriosclerotic changes in fundus, accompanied by central bilateral chorioiditis. The patient was a hard-working man of 48 without history or evidence of lues or alcoholism; with arterial tension increased to 145 mm. during diastole and 185 mm. during systole. Vision, which had been poor since an attack of typhoid five years ago, was improved under treatment from one-fifth to one-fourth normal. Dr. Faith called attention to (1) The central chorioiditis which Nettleship has attributed to the arterial sclerosis in these conditions; (2) The occurrence of the most marked changes in the inferior temporal branch of the central retinal artery as mentioned by de Schweinitz; (3) The fact that the notches in the veins, where they are crossed by the arteries, have almost disappeared under the influence of nitroglycerin; (4) The improvement in vision under treatment.

Dr. G. F. Suker exhibited a case of non-traumatic iridocyclitis plastica in which the second eye became sympathetically involved three weeks later; a subsequent iridectomy upon the primary eye improved the vision somewhat. Dr. G. F. Suker presented specimens of two intraocular tumors in neither of which could a diagnosis be made by the transilluminator because of recent hemorrhage surrounding and covering the tumor, giving a perfect red reflex and no shadow.

Dr. J. F. Burkholder presented as his entrance thesis a paper on "Fundus Lesions with Normal Vision." The essayist emphasized the fact that many fundus lesions other than choked disc may exist without interference with central vision, and exhibited seventeen elaborate paintings in color, including cases of pseudopapillitis, chorioiditis disseminata, central chorioiditis, marked perivasculitis of the retina and luetic, leukemic and hemorrhagic retinitis.

E. V. L. BROWN, *Secretary.*

AUXPLAINES BRANCH.

The first regular meeting of the Auxplaines Branch of the Chicago Medical Society was held at the Phoenix Hospital, Maywood, Ill., Oct. 26, 1906. This branch endorsed the establishment of a business bureau by the Chicago Medical Society. Dr. Harry C. Worthington read a paper on "The Management of the Second and Third Weeks of the Puerperium," in which he brought out the advantages gained by certain gymnastic exercises during that period.

W. EVAN BAKER, *Secretary.*

CRAWFORD COUNTY.

The Crawford County Medical Society met in regular session at the office of Dr. A. G. Meserve, September 13, with the President-elect, Dr. L. R. Illyes in the chair. There were present Drs. J. H. McGovern, I. L. Firebaugh, L. R. Illyes, J. A. Ikemire, Frank Dunham, T. N. Rafferty, A. G. Meserve, C. H. Voorheis, R. S. Johnston and H. N. Rafferty. The minutes of the twenty-sixth annual meeting were approved as read. The Board of Censors reported favorably on the application of Dr. Jonas W. Carlisle, of Robinson, and, on motion, the report of the Censors was accepted and Dr. Carlisle elected to membership.

Dr. Illyes exhibited a case of Aneurism of the Subclavian Artery, a very excellent one for the demonstration of this interesting condition. Dr. Dunham reported a case of numerous gummatous muscular and skin tumors, illustrating the pleasing results of proper treatment, and the characteristic relapse following alcoholic excesses. Dr. Ikemire recited the history of a young man with incipient phthisis, in which an early diagnosis, followed by the institution of proper treatment, both hygienic and drug, gave promise of good results. Dr. Price reported a case of

bone tuberculosis, extending over a long period of time, and presenting many unusual features. After a free and interesting discussion of these cases, and the transaction of routine business, the Society adjourned.

H. N. RAFFERTY, *Secretary.*

The Crawford County Medical Society held its regular bi-monthly meeting at the office of Drs. T. N. and H. N. Rafferty, in Robinson, Thursday, November 8.

In the absence of the president, Dr. C. Barlow was called to the chair. There were present Drs. T. N. Rafferty, I. L. Firebaugh, C. Barlow, Frank Dunham, S. A. Smith, R. S. Johnston and H. N. Rafferty. The program consisted of a symposium on Varicocele, Hydrocele and Scrotal Hernia, Dr. Frank Dunham presenting The Etiology and Differential Diagnosis; Dr. H. N. Rafferty, The Treatment, Palliative and Curative; and Dr. S. A. Smith, The Permanent Results to Be Expected From Proper Treatment. These conditions, and especially their successful treatment were discussed at length by all present, and many valuable points brought out.

The secretary read a letter from Dr. W. A. Evans, of the Medico-Legal Committee of the Illinois State Medical Society, suggesting the advisability of each county society appointing some local attorney as its counselor. On motion, this matter was laid on the table.

The secretary read a letter from Dr. A. T. McCormack, secretary of the Kentucky State Medical Association, asking the coöperation of our society in the movement to uphold the fees in life insurance examinations, and enclosing a copy of the resolutions regarding the matter, adopted by their society at its last annual meeting. On motion, the secretary was instructed to inform Dr. McCormack that our society took action regarding the regulation of the fees for life insurance examinations at its stated meeting in May, 1906.

On motion, the society adjourned to meet in January, 1907.

H. N. RAFFERTY, *Secretary.*

EDGAR COUNTY.

The regular meeting of the Edgar County Medical Society was held at Paris, Oct. 31, 1906, with the President, Dr. W. S. Jones, in the chair. Members present were: Drs. Baum, Cretors, Evinger, Fuller, Ferguson, Jones, C. S. and E. O. Laughlin, Lycan, McCord and Slaughter. Dr. E. O. Laughlin read a paper on The Care of the Infant. Dr. A. W. Slaughter presented a paper on Specific Infection of Women, with Special Relation to Latent Gonorrhea.

W. H. TEN BROECK, *Secretary.*

HANCOCK COUNTY.

The Hancock County Medical Society met at Augusta, Oct. 1, 1906. A short business session was held at 11 o'clock, after which the Augusta members entertained the Society at dinner at the Commercial Hotel. The Society convened at one o'clock. Dr. Percy read an interesting paper on The Borderland of Insanity. Dr. Cooper presented a case of fracture of the patella, which was discussed by Drs. Dorsey, Ruymon, Roberts and Nice. Drs. Tait, Homphry, Miller, Casform, Sherwood were elected to membership. The applications of Drs. Hershey and Camp were referred to the Board of Censors. Members present: Callahan, Nice, Ruymon, Cooper, Roberts, Valentine, Parr and Blender. Visitors: Percey, Dorsey. The next meeting will be held in Warsaw, on the first Monday of January. The Society extended a vote of thanks to the Augusta members for the royal entertainment.

WM. BLENDER, M.D., *Secretary.*

MACON COUNTY.

The Decatur Medical Society met in the rooms of the Decatur Club, Oct. 30, 1906, the vice-president, Dr. M. P. Parrish, in the chair. Dr. C. Martin Wood read a paper on Paratyphoid, calling attention to the differential symptoms between this condition and true typhoid. These are the shorter period of invasion; the shorter or absent period of continued fever; marked diurnal remission of temperature; absence of Widal reaction with typhoid bacilli, but positive reaction with paratyphoid bacilli. The treatment is the same as for typhoid fever, unless the serum treatment is used. In this case, the serum treatment would have no effect on the course of the disease. The serum treatment of typhoid fever is used extensively in South Africa, and there the differential diagnosis is important.

Pursuant to the reading of resolutions from the Kentucky State Medical Association, the following resolution was adopted unanimously:

RESOLVED, That it is the sense of the Decatur Medical Society that examinations for old line life insurance companies should not be made for less than five dollars.

Owing to the fact that the regular meeting night for the Society in December comes on Christmas night, it was decided to hold the December meeting on the third Tuesday of the month.

Dr. M. P. Parrish presented an appendix removed about an hour previous to the meeting. Patient suddenly had pain in the abdomen on the night of October 29; before morning vomiting began. Went to the hospital about six o'clock in the morning, having a temperature of 99; by noon it had gone up to 103; by night 105. Upon opening the abdomen the appendix was found free from adhesions, but its tip presented the appearanc of a clot of blood. There were no perforations and no complications.

M. W. FITZPATRICK, *Secretary-Treasurer.*

M'LEAN COUNTY.

The November meeting of the McLean County Medical Society was held in the parlors of the Illinois Hotel at 7 p. m., Nov. 1, 1906. The minutes of the last regular meeting were read and approved. Communications from Dr. Carl E. Black concerning the ILLINOIS MEDICAL JOURNAL, and from Dr. McCormack relative to insurance fees, were laid on the table until the next regular meeting. A card of thanks was read from Mrs. Dr. Elder and daughter. Dr. Taylor referred to an inquiry he had made to the State Board of Health with reference to the relative efficiency of formaldehyd and sulphur as agents of disinfection, stating that formaldehyd is as efficient as sulphur, but that neither, for physical reasons, is adequate for disinfecting books.

This ending the business meeting, the Society retired to the Ordinary for dinner, after which Dr. James F. Percy of Galesburg, president of the State Society, gave a masterly address on The Borderland of Insanity, prefacing his paper by a few remarks on the importance of the legal defense fund and urging coöperation of the profession in support of the stand taken by the American Medical Association against the reduction of fees for insurance examinations. Dr. Percy referred to his subject as touching not upon insanity *per se*, but upon those cases of neurasthenia, hysteria and kindred conditions which if allowed to go untreated are liable to result in insanity. He spoke of these cases as traceable to ancestral stigmata, to crowding in early life, mental strain in public schools and other conditions which have been aptly termed Americanitis and which produce a disruption of the nervous equilibrium. Prevention lies in prohibiting physically and mentally unfit subjects from marrying. In the case of children, the public schools have in hand the proper solution of the problem. A vote of thanks was tendered Dr. Percy and likewise the committee on entertainment.

The Board of Censors reported favorably upon the application of Dr. E. C. Williams of Downs, and the secretary was instructed to cast the ballot of the Society for Dr. Williams. Those present were: Drs. Noble, C. M., Brown, Fox, A. L., Fox, R. D., Chapin, C. E., Bath, Fenelon, Vandervort, Rogers, Godfrey,

Smith, J. W., Lee, Smith, C. R., Hawks, Hull, Meyer, Sloan, Covery, Howell, Jackman, Little, Wakefield, Yolton, R. G., Yolton J. L., Elder, Rhodes, Guthrie, Taylor, J. B., Henline, Parkhurst, Glasford, Percy, Perry, H. B., McCormick, F. C., Sargent, Cantrell.

THOS. W. BATH, *President.*
O. M. RHODES, *Secretary.*

ST. CLAIR COUNTY.

The regular quarterly meeting of the St. Clair County Medical Society was held at the St. Clair Country Club, October 4. The following officers and members were present: Hugo Wangelin, president; J. W. Twitchell, corresponding secretary; C. W. Lillie, recording secretary; A. E. Hansing, treasurer; and Drs. Adams, Caldwell, Hilgard, Massie, W. E. Wiatt, Portuondo, Miller, Fairbrother, Sloey, W. S. Wiatt, Campbell, Grimes, Wiggins, Walter, Wilhelmj, E. H. Lane. Minutes of last meeting read and approved.

Dr. Hansing reported a case of leukemia in a married woman, 28 years of age; had one child. Spleen began to enlarge about eight months ago, and two months ago filled the entire left side of the abdomen, extending to the pelvis, and to the median line. Six months ago *x*-ray treatment was begun; this appeared to improve the condition, the spleen being slightly reduced, and other symptoms improved. The subcutaneous hemorrhages had not been reduced, and at the time of the report were growing worse; probably owing to the temporary suspension of the *x*-ray treatment. For the hemorrhages, stypticin had been used, but with no apparent benefit.

Dr. Campbell reported a case which he called "habit," being that of a robust man who had worked for twelve years at night, during which time he had enjoyed excellent health. He was then promoted to foreman and given day work; it was then found that he could not sleep at night and that he remained sleepy all day. On Sundays he sleeps all day, which appears to be about all the sleep he gets.

Dr. W. S. Wiatt read reports of four cases of hernia which had been operated on and in which the conditions found strongly emphasized the necessity for prompt surgical attention. Dr. W. E. Wiatt reported a case of sepsis, following abortion.

Dr. Caldwell detailed the symptoms of a case which was difficult of diagnosis. A woman suffered severe menstrual pains; menstrual flow scant, and light in color; severe pains like labor pains followed the menstruation. Examination by speculum showed a severe vaginitis; surfaces hard and unyielding; uterus fixed. No microscopic examination had been made but a suspicion of malignancy was suggested by the physical condition.

Dr. Wilhelmj asked for aid in the diagnosis of a case in which a colored man, twenty-five years of age, had been unconscious for two or three days when he was called; reflexes, with the exception of Babinski's, were lost; pulse 56, temperature normal; destructive, maniacal delirium was also a feature of the case. No diagnosis had been made, but mercury had been given on general principles. The treatment was approved by the members who discussed the case, the opinion being general that syphilis was responsible for the condition.

Dr. Lillie spoke in reference to the attitude of the profession on the question of tuberculosis and urged more energetic effort for the establishment of sanitaria in the county. Asked the members of the Society to unite in an earnest campaign of education on the subject, and to use its influence with the board of supervisors, and with the municipal authorities of East St. Louis and Belleville, to unite in the work.

Dr. Miller, of Caseyville, suggested a popular subscription and offered $50 to start with. Dr. Wiatt offered to furnish a tent for the sanitarium.

Dr. Wiggins reported a very extensive fracture in the cranium of a child, the fissure extending entirely around the calvarium.

The Society adjourned, after which the members joined the ladies and enjoyed their society and supper.

C. W. LILLIE, *Recording Secretary.*

TAZEWELL COUNTY.

The Tazewell County Medical Society was reorganized at Zerwekh's Hall, Pekin, Thursday evening, November 8. Through the efforts of J. Whitefield Smith, Councilor of the Fifth District, this reorganization was brought about. Dr. Smith had sent three separate invitations to each member of the profession in Tazewell County and had secured the attendance of a number of gentlemen outside of the county interested in medical organization, with a result that an interesting program was carried out and a reorganization of the society was accomplished at the meeting. Those present and participating from outside the county were Dr. J. Whitefield Smith, Councilor, of the Illinois State Medical Society; Dr. J. F. Percy, Galesburg, President of the Illinois Medical Society; Dr. H. S. Oyler, Lincoln, Secretary of the Brainard District Medical Society; Dr. T. W. Bath, Bloomington, President of the McLean County Medical Society; Dr. E. W. Weis, Ottawa, Secretary of the Illinois State Medical Society; Dr. E. Mammen, Bloomington, member of the Medical Reorganization Committee, and Dr. G. N. Kreider, Springfield, editor of the ILLINOIS MEDICAL JOURNAL.

All of these gentlemen spoke on the various phases of medical reorganization. The Hon. Daniel Sap, mayor of Pekin, delivered an address of welcome. After the completion of the program Dr. Eugene F. Kelchner, of Delavan, was elected president and Dr. C. G. Muehlmann of Pekin, secretary of the reorganized society. The members of the profession from Tazewell county were William Niergarth, Pekin; J. M. Cody, Tremount, Harry V. Bailey, Pekin; G. D. Prewett, Pekin; T. D. Murphy, Manito; A. A. Crooks, Morton.

WILL COUNTY.

The regular meeting was held November 13. The program was as follows: 1. Some Practical Points in the Treatment of Diabetes, Dr. Alfred C. Croftan, Chicago. 2. General discussion on the business side of the profession, Dr. William Dougall. The most excellent address of Dr. Croftan was enthusiastically received. The general discussion, led by Dr. Dougall, touched on many points of vital interest to the physician, such as insurance examination fees, bad bills, counter prescribing, etc., and there was a general sentiment that the subjects should be given more time at some future date.

The following members were present: Drs. Curtiss and Midgeley of Wilmington; Browne and Jump of Plainfield; Gilbert of Elwood; Nash, Dougall, F. W. Rulien, McBride, Brannon, Munch, Hummel, Waterhouse, Cushing, Benson, McGann, LeSage, Cohenour, Lennon, Richards and Bowles of Joliet.

MARION K. BOWLES, *Secretary.*

ÆSCULAPIAN SOCIETY OF THE WABASH VALLEY.

The sixtieth annual meeting of the Æsculapian Society of the Wabash Valley was held at Paris, Ill., Oct. 25, 1906, under the presidency of Dr. A. T. Robertson, of Ashmore, Ill. The morning session was devoted to the transaction of routine business, including the proposition of eight candidates for membership, and the election of twelve new members, whose applications were received at the last semi-annual meeting. At the afternoon session the following papers were read: 1. "Home Treatment of Consumption," Dr. W. N. Thompson, Sullivan, Ind.; 2, "Summer Diseases of Children," Dr. J. C. Epperson, Kansas, Ill.; 3, "Intussusception in Childhood, with Report of Case," Dr. E. M. Cooley, Oblong, Ill.; 4, "Abortion—Its Causes, Symptoms, Treatment and Moral Effects," Dr. F. E. Bell, Mattoon, Ill.; 5, "Treatment of Lobar Pneumonia," Dr. W. J. Fernald, Frankfort, Ind.; 6, "Obstetrical Observations," Dr. E. S. Allen, Arcola, Ill.

At six o'clock the society adjourned to the Christian Church, where the annual society dinner was served to about one hundred members. After the completion of the banquet, the sixtieth anniversary of the birth of the society was fittingly observed by the following responses, with Dr. E. S. Allen as toastmaster:

1. "The Birth of Our Society—Its Meaning," Dr. C. E. Price, Eaton, Ill.; 2, "Æsculapian Individuality," Dr. Z. T. Baum, Paris, Ill.; 3, "Reminiscences," Dr. S. J. Young, Terre Haute, Ind.; 4, "The Doctor as a Good Samaritan," Rev. Ira W. Allen, Paris, Ill.; 5, "Ten Years as Secretary," Dr. C. B. Johnson, Champaign, Ill.; 6, "Once an Æsculapian, Always One," Dr. G. T. Ragan, Neoga, Ill.; 7, "Our Future," Dr. J. L. Reat, Tuscola, Ill.; 8, "The Man on the Inside," Dr. E. B. Cooley, Danville, Ill.

The membership of this society now numbers about three hundred, and there was an attendance of one hundred and twenty-five at this meeting, which was very successful and enjoyable from every standpoint.

Champaign, Ill. was chosen as the place for the semi-annual meeting, May next, and the following officers were elected for the ensuing year: President, Dr. Chas. B. Johnson, Champaign, Ill.; Vice-President, Dr. F. E. Bell, Mattoon, Ill.; Secretary and treasurer, Dr. H. N. Rafferty, Robinson, Ill. (re-elected); Board of Censors: Dr. J. T. Montgomery, Charleston, Ill.; Dr. C. E. Price, Eaton, Ill.; Dr. Mark Rowe, Paris, Ill.; Dr. W. E. Bell, Terre Haute, Ind.; Dr. T. E. Walton, Danville, Ill..

NEWS OF THE STATE.

Smallpox is reported at Chillicothe.

Galesburg reports five cases of smallpox.

Dr. E. J. Doering has returned from Europe.

Four cases of smallpox are reported from Viola.

Dr. Harry H. Henning, of Plano, to Sugar Grove.

Smallpox is reported from Walnut, Bureau County.

Dr. L. D. Wright, of Rochester, has located in Alexis.

Dr. Lutjens has removed from Farmingdale to Buffalo.

Oak Park reported a case of smallpox on November 14.

Dr. S. P. Hart, of Auburn, has moved to East St. Louis.

Dr. W. C. Mitchell has removed from Fairview to Bradford.

Dr. B. F. Crabtree has removed from Anna to Paragould, Ark.

Dr. Albert E. Brown, of Waukegan, has moved to Groton, S. D.

The Isolation Hospital of Granite City was burned on October 16.

Dr. W. Benjamin Pickrell, of Springfield, has located in Spokane, Wash.

Dr. C. Hayes, of Pleasant Plains, has opened an office in Amarillo, Texas.

The Schwabenverine, of Chicago, has donated $1,150.00 to local hospitals.

Dr. Frank E. Baldwin, of Peoria, is recovering from an attack of septicemia.

On October 25 twenty-one cases of smallpox were reported as present at Wyoming.

Dr. T. L. Wilcox, of Springfield, has been making an extended visit to Kentucky.

Blessing Hospital, Quincy, has realized $2,674.00 from hospital day contributions.

Dr. S. P. Hopkins, of Springfield, has been visiting in Omaha and San Francisco.

Dr. John C. O'Connor and family, of Buffalo, have returned from a trip to Colorado.

Dr. Elizabeth Matthews, of Springfield, will make a trip to Vienna for medical study.

Typhoid fever is said to be epidemic at Waukegan, owing to a contaminating water supply.

Smallpox is reported from Murdock, Douglas County. It was first diagnosed as "Cuban itch."

A reception and ball was held November 28 by the Chicago Polyclinic Nurses' Alumni Association.

The Board of Education of Averyville has closed the schools for one week on account of diphtheria.

Dr. Austin M. Lindley, of Urbana, injured his arm recently by falling from the haymow of his barn.

J. F. Alderson, of Urbana, an osteopath, was fined $100.00 for practicing medicine without a license.

The People's Hospital, Chicago, is about to move its new building at Twenty-third street and Archer avenue.

Typhoid fever is reported at Mont Clare. The local health department states that it is due to impure milk.

W. R. Grady, of Rushville, was fined $100.00 and costs on November 1 for practicing medicine without a license.

Diphtheria and scarlet fever are epidemic in Peoria County, and the schools have been closed in several districts.

In a collision between his automobile and a street car on November 10, Dr. Wm. P. Koons was severely cut by broken glass.

The State Board of Health has moved its laboratories to 228 East Capitol avenue, Springfield, in order to obtain more space.

Dr. P. H. Oyler, of Mt. Pulaski, has sold his practice to Dr. Van Hook and will look after his farming interests in the South.

Typhoid fever is said to be present at Morris. Olney, Batestown, Hillery, Oakland and Onarga report diphtheria as present.

Dr. F. C. Hotz has completely recovered from his recent illness and has resumed his practice in the Venetian Building, Chicago.

George Styer, a West Randolph street, Chicago, druggist, is said to have been arrested on November 8, charged with selling cocain.

Dr. J. S. Clark has completed his term as interne at the Illinois Charitable Eye and Ear Infirmary. He has located at Freeport.

Two maids employed in the German Hospital were asphyxiated by gas and two others overcome at that institution on November 8.

Dr. Fernand Henrotin, one of the oldest and most prominent members of the Chicago Medical Society, is critically ill with myocarditis.

N. W. Harris, of Chicago, transferred, on November 3, the new home for nurses erected by him for Wesley Hospital at a cost of $30,000.

The Board of Supervisors of Sangamon County has purchased $200.00 worth of tents for tubercular patients in the local hospitals.

Typhoid fever is reported by the State Board of Health as prevalent in thirty-four localities in the state in a more or less epidemic form.

Dr. T. C. Williams, fellow in zoology at the University of Chicago, has been elected professor of biology at Morningside College, Sioux City, Iowa.

Diphtheria is reported at East Springfield, where the State Board of Health has been compelled to adopt stringent measures to enforce quarantine.

The Illinois Central Railroad has appointed Dr. Arch G. Servoss as local surgeon at Havana, in place of Dr. P. L. Dieffenbacher, who died recently.

Dr. H. T. Ricketts, of the University of Chicago, is continuing his work on spotted fever with material which he secured in the west during last summer.

The Michael Reese Hospital, Chicago, has received $500.00 from the estate of Adolph Loud. Alexian Brothers' Hospital has received $250.00 from the same source.

Several cases of smallpox have appeared at Peoria and have caused a general revaccination. The matter has been investigated by an officer of the State Board of Health.

Dr. Miles D. Baker has tendered his resignation as assistant superintendent of the Illinois Southern Hospital for the Insane at Anna. Dr. Baker has held this position for ten years.

St. Francis' Hospital, Peoria, celebrated the fiftieth anniversary of the connection of Dr. Joseph Studder, of that city, with the institution and entertained him as its guest of honor.

Dr. Broughton, of Rockford, has incorporated his sanitarium. The institution is capitalized at $40,000, with Dr. Russell Broughton, George T. Robertson and R. K. Welsh as incorporators.

Beverly Farms, Godfrey, has just completed a 12-room addition to its main building. Its new school and gymnasium building has also been opened. Dr. W. H. C. Smith is superintendent.

Dr. Wm. E. Quine opened the Chicago Medical Society's course of free lectures, on November 3, by delivering a lecture on "Some Problems in Preventing Disease" at the Chicago Public Library.

Governor Deneen has approved the plans for a hydropathic hospital in connection with the Illinois Hospital for the Insane at Elgin. The building is to have a capacity of about twenty patients.

Samuel Taylor, a cement worker of Monmouth, has brought suit for $1,000.00 damages against Dr. Zimmerman, of Cameron. Taylor charges that the results following a broken arm were unsatisfactory.

The Visiting Nurses' Association of Chicago and the Passavant Memorial Hospital of Chicago are among the five beneficiaries among whom will be divided $50,000.00 from the estate of Mrs. Lucretia J. Tilton.

Owing to the presence of three cases of smallpox in Moline, the Health Commissioner has instructed the superintendent of schools that all children in the infected district must be vaccinated or remain out of school.

The Chicago Urological Society has elected Dr. Louis E. Schmidt president; Dr. J. Allen Paton, vice-president; Dr. Budd C. Corbus, secretary; Dr. Wm. T. Belfield, councilor; Dr. Henry G. Anthony, alternate councilor.

Coroner Peter Hoffman, of Cook County, will endeavor to obtain an indictment against a midwife, Magdaline Straus, so it is reported, on the charge of having caused the death of a patient by means of a criminal operation.

Otto Young, just before his death, transferred to Dr. Billings the property at the northwest corner of South Park avenue and Fifty-fourth street. This location will be used for the McCormick Memorial Institute for Infectious Diseases.

The Chicago *Tribune* Summer Hospital closed its second session on October 15. It has been open for sixteen weeks, during which time 372 patients, most of them poor children convalescing from various diseases. were cared for.

Owing to the lack of school inspection in Chicago, diphtheria is more prevalent than at any time for four years. The chief medical inspector of the Health Department is endeavoring to re-establish the school inspection service.

The Military Tract Association held its sixty-seventh annual session at Macomb on October 18. Dr. John P. Roark, of Bushnell, was elected president and Dr. Franklin E. Wallace, of Monmouth, was re-elected secretary and treasurer.

Joseph F. Glidden, the barbed wire magnate of DeKalb, who died recently, left directions for the erection of a hospital in DeKalb to be known as the Joseph F. Glidden Hospital, for which $22,000.00 from his estate was set aside.

A chest of linen sufficient to supply a hospital for one year is being raffled by the Children's Hospital Society of Chicago. It is hoped to raise enough money by this means to provide the hospital with necessary service during the winter.

Chief Collins of the Chicago Police Department has recommended that the police ambulances be transferred from the control of the Police Department to that of the Health Department and that a physician be assigned to each ambulance.

United States Senator Benjamin Tillman lectured in the Orchestra Hall, Chicago, on November 27, for the benefit of the equipment fund of the Chicago Union Hospital. The new building, erected at a cost of $60,000.00, is now about completed.

Diphtheria in Fairfield caused the closing of the public schools, Sunday schools and churches. The Health Commissioner of Moline reported, on November 24, nineteen cases of scarlet fever, four cases of diphtheria and one case of smallpox.

Items in the Chicago papers report the filing of a suit for $25,000 damages against Dr. H. Edward Sauer by A. L. Doherty. Mr. Doherty claims that a gauze sponge was left in his wife's abdomen following an operation for appendicitis last July.

Scarlet fever is reported as epidemic in Glencoe, with the result that the public school, the post-office and the public buildings were closed for several days. The Health Department has been taking vigorous measures to prevent a spread of the disease.

Provident Hospital, Chicago, has published its fifteenth annual report, which shows that during the last year 1,216 hospital patients and 5,000 dispensary patients have received treatment. Nine nurses were graduated from the training school.

The Turck Institute, at Chicago, has received a complete collection of all micro-organisms known to infest the gastro-intestinal tract of man. This collection was presented by the Pasteur Institute of Paris and includes specimens obtained from all parts of the world.

Justice Underwood, of Chicago, fined A. W. Birkholz $100 and costs for practicing medicine without a license. Birkholz advertised that he could heal all diseases without the use of medicine. The prosecution was conducted by the Illinois State Board of Health.

The Æsculapian Society of the Wabash Valley held its sixth annual meeting in Paris, Illinois, October 25. The next meeting will be held at Champaign in May of 1907. Dr. Chas. B. Johnson, of Champaign, was elected president, Dr. Herbert N. Rafferty, of Robinson, was elected secretary-treasurer.

The Cook County Alumni Association held its fortieth annual reunion November 15th. Dr. Nicholas Senn was elected president and Dr. Fred A. Besley secretary. Dr. Nils T. Quales, the first physician to receive an appointment as Cook County interne, was present and delivered an address.

Dr. James A. Egan, secretary of the Illinois State Board of Health, states that there should be an ordinance forbidding the practice of burning leaves, as the smoke is irritating to the mucous membrane of the throat and nose and renders individuals inhaling it more susceptible to diptheria and other diseases.

The Fifth District Medical Society met in Pekin, on November 8. The mayor delivered an address of welcome and Dr. J. Whitefield Smith of Bloomington, Councilor for the district, responded. Dr. Eugene F. Kelchner, of Delavan, was elected president, and Dr. Carl G. Muehlmann, of Pekin, secretary-treasurer.

The Illinois State Conference of Charities have elected Dr. Frank P. Norbury of Jacksonville president and have appointed the following committee on etiology of dependents. Chairman, Dr. Vaclav A. Podstata, of Elgin; members, Drs. Henry B. Carriel and Josephine Milligan of Jacksonville, and Hugh T. Patrick, Chicago.

The semi-annual meeting of the Fox Rixer Valley Medical Association was held in Aurora, November 13. Dr. Albert A. Fitz of Batavia was elected president, Dr. Ralph R. Dewitt of Hampshire vice-president, Dr. George F. Allen was re-elected as secretary-treasurer. The next meeting of the Association will be in Elgin in April of 1907.

The Sixth District Medical Society held its annual meeting at Jacksonville, October 26. The following officers were elected: Dr. Thomas J. Pitner of Jacksonville, president; Drs. Robert H. Christy of Quincy, Harry R. Lemen of Alton, vice-presidents; Dr. William P. Duncan of Jacksonville, secretary-treasurer. The 1907 meeting will be held in Quincy.

Dr. Michael McGrath, 78 State street, and Dr. Henry Richards, 146 State street, have been arrested by the federal authorities on indictments charging them with the use of the mails for improper purposes. Post-office inspectors sent decoy letters to the two men using the names of women and representing that the writers desired their services for illegal purposes.

Harry D. Easterly, of Peoria, with whom some of the physicians of the state have had unfortunate dealings in the past, has been arrested

and placed in jail. This action was taken by one Ed Schindler, of Peoria, on the charge that he had failed to pay money for damages due Schindler, although he had full control of the Peoria Health and Accident Company.

The Illinois State Homeopathic Society purchased a site on the Illinois River in LaSalle County, on which to locate a tent colony for the treatment of tuberculosis. A company is to be formed to be known as the Buffalo Rock Tent Colony to conduct this enterprise. The Homeopathic Society is to be congratulated by the Illinois State Medical Society in this undertaking.

Dr. Frank Monroe Culver, head of the Red Cross Nurses' Association, was arrested on complaint of Alwin W. Hautau, who charged Dr. Culver with having hypnotized and defrauded him. Hautau claims that he formed a partnership with Dr. Culver while under hypnotic influence and that he was not allowed to leave the Doctor's presence while the partnership continued.

The Springfield Board of Education has replied to the attack on the President of the Board, made by the *Illinois State Journal*, criticizing the Board for its failure to close one of the local school buildings during an epidemic of diphtheria. The Board states that the president was acting on the advice of the Board of Health, that all of the cases of diphtheria are under quarantine regulations and that the closing of the school was not necessary.

Dr. and Mrs. J. C. Barr, of Lawrenceville, celebrated the golden anniversary of their wedding, November 9. Dr. Barr was born in Lancaster County, Pa., was reared in Ohio; graduated at the Ohio Medical College in 1857. He served during the war as major-surgeon of the First Ohio Infantry and located in Lawrence County after the war. He retired from practice about a year ago. His son, Dr. G. W. Barr, of Keokuk, Iowa, attended the wedding.

Mrs. Annie Arp, of New Liberty, Scott County, has brought suit for $50,000.00 damages against Drs. A. L. Hageboeck, J. T. Haller and J. H. Meyhaus. The complainant alleges that the physicians operated upon her husband, Johannes Arp, for appendicitis, on August 2, 1905, and that, in the course of the operation, a gauze sponge was left in the abdomen, from which an abscess resulted, causing the death of the patient. The defense states that the gauze was removed subsequent to the operation while dressing the wound.

Dr. R. H. Fletcher, of the Chicago Emergency Hospital, 309 Fifth avenue, Chicago, is reported to have claimed that the Police Department was discriminating against his institution by refusing to send to it persons injured in the downtown district. Chief Collins, of the Police Department, says that the institution had an agreement with the city to treat all such cases free of charge and that it has not lived up to its agreement, and that he has, consequently, instructed ambulance drivers to take all accident cases to the County Hospital.

A warning has been sent to the medical profession throughout the country concerning a man representing himself as a San Francisco

refugee and giving the name of Dr. L. Lloyd Shaw. He tells a very interesting story of losing everything in the San Francisco disaster. He needs a little financial assistance to enable him to send his wife home to her family, or for some equally laudable purpose. He claims to have been a newspaper reporter and sometimes varies his story by stating that he is now employed by one of the Chicago papers. He is well dressed, clean shaven, about 5 feet 9 inches high, weighs about 150 pounds and has dark hair, slightly gray. He claims to have graduated from Rush Medical College in 1886.

The keeping of records and accounts is a most irksome duty to the active practitioner. No matter how busy or exhausting the day, they still remain to be attended to. Sooner or later they are slighted, and slipshod methods and confusion follow. The "Card System" revolutionizes this state of affairs. It eliminates all the disadvantages of books, and makes each record so comprehensible and easy of reference as to give it a new value. In lieu of the physician's memorandum book, case history book, cash book, ledger, and what-not, the card system substitutes two cards—case history card and ledger card. One card is used for each patient. Impressed with the worth and practicability of these cases, the Angier Chemical Company has developed a complete case, designed especially for physicians, and so arranged as to take care, in the best possible manner and with the least trouble, of his records and accounts. The first of January is the most convenient time to change from books to the card system. The Angier Chemical Company (*Allston District, Boston, Mass.*) is making a special advertising offer and low price for these history and ledger card outfits. Any of our readers who will write to them (mentioning this journal) will receive sample cards and details regarding their attractive offer.

MARRIAGES.

L. Austin Burr, M.D., to Miss Josephine Raney, both of Bloomington.

Frank J. Fara, M.D., to Miss Julia M. Tupy, both of Chicago, November 21.

Henry Charles Johannes, M.D., to Miss Ada May Summers, both of Chicago.

Harry Edward Clyde, M.D., to Miss Jennie Mae Rothrock of Chicago, October 3.

Maurice Altman, M.D., Springfield, to Miss Gussie Salzenstein, Athens, November 14.

Ernest C. White, M.D., Springfield, to Miss Pearl McCreery, Springfield, November 8.

Edward A. Glasgow, M.D., to Miss Mildred Daise Mattinly, both of Mulberry Grove, October 31.

Harry L. Pollack, M.D., Chicago, to Miss Mabel Hirsch of Burlington, Iowa, at Chicago, October 14.

Gustave William Rudolphi, Elliot, Ill., to Miss Fannie Lovina Brooks, Minneapolis, Minnesota, October 30.

DEATHS.

SARAH DELOSS, M.D., years of practice, 438 West Adams street, Chicago, died November 14, aged 64 years.

JOHN P. HEDRICK, M.D., died suddenly from heart disease at his home in Loraine, October 28, aged 48.

ANNIE W. MARTIN, M.D., died at her home in Elgin, October 24, from pneumonia, after an illness of six days, aged 79.

ARTHUR RAMSER, M.D., Jenner Medical College, Chicago, 1903, died at his home in Chicago, November 13, from heart disease.

FRANCIS M. RICHARDSON, M.D., Eclectic Medical Institute, Cincinnati, 1876, died at his home in Chicago, October 24, aged 75.

EVA M. L. SCOBELL, M.D., Hering Medical College and Hospital, Chicago, 1899, died at her home in Chicago, September 11, aged 33.

HARVEY DUNN, M.D., St. Louis Medical College, 1867, died at his home in Perry, September 11, after an illness of several years, aged 72.

E. B. LEFEVRE, M.D., Medical College of Ohio, Cincinnati, 1889; of Abilene, Kan., died from hemorrhage of the lungs in Danville, October 31.

GEORGE S. SCHIEBER, M.D., of Chicago, died Oct. 31, 1906. He was buried November 2 from the late residence, 1327 Dakin street, Chicago.

J. Y. CAMPBELL, M.D., Chicago Medical College, 1865, for 25 years a practitioner of Paxton, died at his home near Rochester, Ind., September 21.

ERNEST J. MILLER, M.D., College of Physicians and Surgeons of Chicago, 1888; died at his home in Sycamore, November 19, from embolism, aged 52.

REUBEN H. BAKER, M.D., Chicago Homeopathic Medical College, 1890, of Pearl City, died at St. Francis Hospital, Freeport, October 9, two days after an operation for appendicitis, aged 42.

GEORGE A. WILLIAMS, M.D., St. Louis Medical College, 1865, one of the oldest practitioners of southern Illinois, died at his home in Hardin, September 30, after an illness of several weeks, aged 70.

ELLIOT H. WHEELER, M.D., a veteran of the Civil War and for many years a practitioner of southern Illinois, died suddenly near Murphysboro, October 20, from dropsy, after a long illness, October 13.

JAMES MOFFITT, M.D., Rush Medical College, Chicago, 1868; who retired from practice in 1880 and has been an invalid for the past 18 years, died at his home in Monticello, September 21, from uremia, aged 66.

JULIUS G. VETTER, M.D., of Belleville, graduate of the College of Physicians of St. Louis in 1884; a member of the Board of Education of Belleville, died suddenly in that city, October 25. He was 53 years of age.

H. G. VAN SANDT (years of practice, Illinois), a veteran of the Civil War, a trustee of the Illinois State Normal School, Charleston, died at

his home in Montrose, Ill., September 21, from cerebral hemorrhage, aged 63.

RICHARD T. HIGGINS, M.D., Vandalia, died at the Prince Sanitarium, Springfield, November 14, aged 64 years. Dr. Higgins had been out of practice for a number of years and had given his attention to banking.

MARIE E. FRAHM, M.D., Northwestern University, Woman's Medical School, Chicago, 1899; formerly a practitioner of Mattoon, died at her home in Tuscola, September 30, from cerebral hemorrhage, after an illness of one week, aged about 30.

MERRILL GAYLORD PINGREE, M.D., Bennett College of Eclectic Medicine and Surgery, Chicago, 1880; who had been ill for a number of years, is reported to have committed suicide, October 15, by gunshot wound of the head and gas asphyxiation, aged 60.

GUILFORD DUDLEY ELDER, M.D., University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1877; a veteran of the Civil War; a member of the McLean County and Illinois State Medical Societies, died suddenly, October 1, at his home in Bloomington, from cerebral hemorrhage, aged 59.

LOUIS C. STARKEL, M.D., residing for some years in Chicago and formerly for many years a practitioner of Belleville, from which place he was elected treasurer of the state, died at the Lincoln Park Hospital, October 30, 1906, aged 67 years. The funeral was in charge of the Masons and Knight Templars and the interment was made at Belleville.

JEROME B. SNYDER, M.D., Chicago Medical College, 1864; a veteran of the Civil War; for two years a member of the city council, and for seven years president of the Board of Education of Polo; United States Examining Surgeon for four years; a member of the Ogle County and Illinois State Medical Societies, died at his home in Rowan, Iowa, September 29, after a long illness, from cancer of the stomach, aged 62.

J. M. REID, M.D., who practiced medicine from 1894 to 1904 at DeLand, and later for a short time at Fairmont, died at Bridgeport, Conn., Oct. 9, 1906. His remains were returned to DeLand for burial and the services were largely attended by his relatives and friends of that town. Owing to poor health, Dr. Reid had taken a position in the office of the American Graphophone Co. Dr. Reid was in his thirty-seventh year at the time of his death.

ARNOLD PLUMER GILMORE, M.D., Jefferson Medical College, Philadelphia, 1874; formerly of Winona, Minn., but for more than 20 years a resident of Chicago, and a specialist on diseases of the eye and ear; president of the Columbus Safe Deposit Company, and one of the principal owners of the Columbus Memorial building; one of the members of the first board of trustees of the Sanitary District, died at his home in Chicago, October 10, from Bright's disease, after a long illness, aged 55.

NEW MEMBERS OF THE AMERICAN MEDICAL ASSOCIATION.

During the month of November the following members of the Illinois State Medical Society became members of the American Medical Association:

Alvarez, Manuel, Chicago.
Blair, J. W., Harvey.
Earnheart, E. G., Dongola.
Gernsey, H. N., Dover.
Hall, J. W., Chicago.
Hinckle, W. A., Peoria.
McElfresh, C. H., Springfield.
Metz, I. W., Springfield.
Nauth, D. F., Rockford.
Neer, I. E., Edinburg.
Nichols, H. J., Quincy.
Ogram, A. J., Jacksonville.
Sabin, F. A., Anna.
Sheller, W. O., Big Rock.
Toalson, J. J., Peoria.
Weld, J. C., Hospital.
Werner, A. W., Quincy.

NEW MEMBERS OF THE ILLINOIS STATE MEDICAL SOCIETY.

During the month of November the following physicians became members of the Illinois State Medical Society:

BUREAU COUNTY.

Hess, H. R., Whitefield.

CHAMPAIGN COUNTY.

Powers, F. H., Champaign.

COOK COUNTY.

Bagley, H. P.
Bahl, W. H.
Blakelidge, Mary.
Boehmer, Olav.
Breakstone, B. H.
Brunning, Henry F.
Burbach, William M.
Burkett, Susie L.
Cater-Sweeting, G. M.
Clarke, G. Morgan.
Clay, Harry Elwin.
DeVault, A. N.
Dolan, A. N. J.
Fauls, Winfield Scott.
Goetinger, Charles F.
Goodwin, C. G.
Haeusler, Anna Martha.
Hansen, Oscar A.
Hays, Woodward H.
Holliday, O. M.
Hollister, Mary C.
Holm, Anna S. W.,
Horn, Albert T.
Howard, Charles E.
Irons, Ernest E.
Joffee, William.
Jordan, G. T.
Kelley, Thomas H.
Knap, W. H.
Lee, Geo. W.
Luken, Martin Girard.
Lipsbulch, George U.
Lumley, Clinton G.
Lynch, Frank W.
MacChesney, William Nelson.
McDonald, M. Bertha.
McDowell, William S.
Morton, F. R.
Moss, E. B.
Murray, Alfred N.
Napheys, W. D.
Newton, Herman C.
O'Brien, C. L.
Olsen, E. T.
Orndorff, Benjamin H.
Ostrowski, Leonard M.
Pearson, L. M.
Peterson, Theodore J.
Pirosh, Sigmar.
Ream, Fred K.
Roe, Emory W.
Rulifson, G. F.
Rydin, G. G.
Sahud, M.
Steffen, R. C.
Thompson, Gertrude F.
Thorek, M.
Ullman, Eva Prescott.
Walker, Robert J.
Wedeles, Leopold.
West, William B.
White, William S.
Zöhrlaut, George G.

DEKALB COUNTY.

Gould, G. W., Jr., Fairdale.
Greeley, Paul E. N., Waterman.

EDWARDS COUNTY.

Stahl, S. S., Albion.

FAYETTE COUNTY.

Kepmer, M. E., Laclede.

JERSEY COUNTY.

Park, F. W., Fieldon.

KNOX COUNTY.

Beecher, C. E., Gilson.
Cowan, J. E., Galesburg.
Elion, Carl, Altona.
Ripley, C. E., Galesburg.
Thompson, T. W., Knoxville.
Slater, A. S., Wataga.

M'LEAN COUNTY.

Ayling, C. H., Gridley.

PEORIA COUNTY.

Borin, W. A., Napleton.
Dowdall, W. T., Peoria.
Finnell, J. L., Peoria.
Parker, Geo. G., Peoria.
Sholl, Rex, Peoria.
Short, W. H., Peoria.
Wyatt, Walter, Peoria.

PLATT COUNTY.

Gaston, M. Adelaide, Cerro Gordo.

WINNEBAGO COUNTY.

Nauth, T., Rockford.

ILLINOIS STATE MEDICAL SOCIETY

SECTION OFFICERS AND COMMITTEES.

SECTION ONE.

C. W. Lillie, E. St. Louis.....Chairman
Ralph W. Webster, 100 State St., Chicago..
.....Secretary

SECTION TWO.

E. H. Ochsner, 710 Sedgwick, St., Chicago.
.....Chairman
H. W. Chapman, White Hall.....Secretary

COMMITTEE ON PUBLIC POLICY.

Robert B. Preble, Chairman.
Carl E. Black, Jacksonville.
J. W. Pettit, Ottawa.
The President and Secretary, ex-officio.

COMMITTEE ON MEDICAL LEGISLATION.

L. C. Taylor, Springfield.
M. S. Marcy, Peoria.
J. V. Fowler, Chicago.
The President and Secretary, ex-officio.

COMMITTEE ON MEDICAL EDUCATION.

Frank P. Norbury, Jacksonville.
J. F. Percy, Galesburg.
C. L. Mix, Chicago.

COMMITTEE ON SCIENTIFIC WORK.

The Section Officers.
The President and Secretary.

COUNTY SOCIETIES.

This list is corrected in accordance with the best information obtainable at the date of going to press. County secretaries are requested to notify THE JOURNAL of any changes or errors.

Adams County.

J. M. Grimes, Pres.....Camp Point
George E. Rosenthal, Secy.....Quincy

Alexander County.

Samuel B. Cary, Pres.....Cairo
J. T. Walsh, Secy.....Cairo

Bond County.

John W. Warren, Pres.....Greenville
J. C. Wilson, Secy.....Greenville

Boone County.

R. W. McInnes, Pres.....Belvidere
R. B. Andrews, Secy.....Belvidere

Brown County.

S. J. Wilson, Pres.....Versailles
F. E. McGann, Secy.....Mt. Sterling

Bureau County.

J. C. White, Pres.....Seatonville
O. J. Flint, Secy.....Princeton

Calhoun County.

I. S. Berry, Pres.....Batchtown
Stephen Flatt, Secy.....Hardin

Carroll County.

G. W. Johnson, Pres.....Savanna
H. S. Metcalf, Secy.....Mt. Carroll

Cass County.

C. M. Hubbard, Pres.....Virginia
J. A. McGee, Secy.....Virginia

Champaign County.

C. M. Craig, Pres.....Champaign
C. D. Gulick, Secy.....Urbana

Clark County.

Geo. T. Rowland, Pres.....Martinsville
L. J. Wier, Secy.....Marshall

Clay County.

W. E. Burgett, Pres.....Louisville
C. E. Duncan, Secy.....Flora

Christian County.

M. W. Staples, Pres.....Grove City
D. D. Barr, Secy.....Taylorville

Clinton County.

T. E. Alsop, Pres.....Carlyle
C. H. McMahan, Secy.....Carlyle

Coles County.

N. C. Iknayan, Pres.....Charleston
O. M. Ferguson, Secy.....Mattoon

Cook County—Chicago Medical Society.

G. W. Webster, Pres.....Chicago
R. T. Gillmore, Secy.....Chicago

Crawford County.

F. Dunham, Pres.....Robinson
H. N. Rafferty, Secy.....Robinson

Cumberland County.

G. E. Lyon, Pres.....Robinson
W. R. Rhodes, Secy.....Toledo

DeKalb County.

Geo. W. Nesbie, Pres.....Sycamore
C. H. Nordoff, Secy.....Genoa

De Witt County.

J. M. Wilcox, Pres.....Clinton
A. E. Campbell, Secy.....Clinton

Douglas County.

E. S. Allen, Pres.....Arcola
Walter C. Blaine, Secy.....Tuscola

Du Page County.
(Affiliated with Cook County.)

Edgar County.

W. S. Jones, Pres.....Redmon
W. H. Ten Broeck, Secy.....Paris

Edwards County.

W. E. Buxton, Pres.....Samsville
J. H. Lacey, Secy.....Albion

Effingham County.

T. J. Dunn, Pres.....Elliottstown
C. F. Burkhardt, Secy.....Watson

Fayette County.

H. D. Smith, Pres.....Vandalia
A. L. T. Williams, Secy.....Vandalia

Franklin County.

A. G. Orr, Pres.....Benton
R. E. Poindexter, Secy.....Benton

Fulton County.

T. R. Plummer, Pres.....Farmington
D. S. Ray, Secy.....Cuba

Gallatin County.

I. A. Foster, Pres.....New Haven
J. W. Bowling, Secy.....Shawneetown

Greene County.

H. W. Chapman, Pres.....Whitehall
H. A. Chapin, Secy.....Whitehall

Grundy County.

W. E. Walsh, Pres.....Morris
H. M. Ferguson, Secy.....Morris

Hamilton County.

I. I. Hall, Pres.....Broughton
G. N. Lyons, Secy.....McLeansboro

Hancock County.

S. M. Parr, Pres.....Fountain Green
Wm. Blender, Secy.....Carthage

Hardin County.

F. M. Fowler, Pres.....Elizabethtown
R. H. Willingham, Secy.....Elizabethtown

Henderson County.

I. F. Harter, Pres.....Stronghurst
Ralph Graham, Secy.....Biggsville

Henry County.

J. E. Westerlund, Pres.....Cambridge
H. W. Waterous, Secy.....Galva

Iroquois-Ford District.

D. W. Miller, Pres.....Gilman
Robt. Lumley, Secy.....Watseka

Jackson County.

O. B. Ormsby, Pres.....Murphysboro
W. C. Hill, Secy.....Murphysboro

Jasper County.

H. S. Hinman, Pres.....Newton
Jas. P. Prestley, Secy.....Newton

Jefferson County.

J. H. Mitchell, Pres.....Mt. Vernon
J. R. Whitlock, Secy.....Mt. Vernon

Jersey County.

A. K. Van Horne, Pres.....Jerseyville
H. R. Bohannan, Secy.....Jerseyville

Jo Daviess County.

E. M. Bench, Pres.....Galena
D. G. Smith, Secy.....Elizabeth

Johnson County.
H. D. Larue, Pres.....New Burnside
H. O. Williams, Secy.....Belknap

Kane-McHenry District.
J. F. Bell, Pres.....Elgin
G. S. Allen, Secy.....Aurora

Kankakee County.
B. F. Uran, Pres.....Kankakee
A. S. Kenega, Secy.....Kankakee

Kendall County.
T. B. Drew, Pres.....Oswego
R. A. McClelland, Secy.....Yorkville

Knox County.
J. H. Brown, Pres.....Rio
G. S. Bower, Secy.....Galesburg

Lake County.
E. H. Pomeroy, Pres.....Highland Park
A. C. Haven, Secy.....Lake Forest

La Salle County.
F. A. Wiley, Pres.....Cariville
W. A. Pike, Secy.....Ottawa

Lawrence County.
B. F. Hockman, Pres.....Sumner
C. P. Gore, Secy.....Lawrenceville

Lee County.
C. H. Ives, Pres.....Dixon
S. W. Lehman, Secy.....Dixon

Livingston County.
G. C. Lewis, Pres.....Fairbury
John Ross, Secy.....Pontiac

Logan County.
L. L. Leeds, Pres.....Lincoln
H. S. Oyler, Secy.....Lincoln

McDonough County.
J. B. Bacon, Secy.....Macomb

McHenry County.
(See Kane-McHenry District.)

McLean County.
Thos. W. Bath, Pres.....Bloomington
O. M. Rhodes, Secy.....Bloomington

Macon County—Decatur Medical Society.
C. Chenowith, Pres.....Decatur
M. W. Fitzpatrick, Secy.....Decatur

Macoupin County.
J. M. English, Pres.....Gillespie
E. A. Bleuler, Secy.....Carlinville

Madison County.
G. W. Hinchee, Pres.....Mors
F. C. Joesting, Secy.....Alton

Marion County.
J. E. Schoonover, Pres.....Salem
W. W. Murfin, Secy.....Patoka

Marshall County.
J. W. Potts, Pres.....Lacon
J. A. Swem, Secy.....Henry

Mason County.
H. H. Hanley, Pres.....Havana
A. L. Cook, Secy.....Mason City

Massac County.
M. H. Trovillion, Pres.....Metropolis
A. C. Ragsdale, Secy.....Metropolis

Menard County.
A. L. Britten, Pres.....Athens
Irving Newcomer, Secy.....Petersburg

Mercer County.
V. A. McClanahan, Pres.....Viola
I. E. Burtnett, Secy.....Joy

Monroe County.
John S. Sennott, Pres.....Waterloo
Elbert J. Lee, Jr., Secy.....Valmeyer

Montgomery County.
P. M. Kelly, Pres.....Litchfield
H. F. Bennett, Secy.....Litchfield

Morgan County.
Josephine Milligan, Pres.....Jacksonville
David W. Reid, Secy.....Jacksonville

Moultrie County.
W. E. Stedman, Pres.....Sullivan
F. P. Zerfass, Secy.....Sullivan

Ogle County.
J. A. Johnston, Pres.....Byron
F. W. Mitchell, Secy.....Leaf River

Peoria City Medical Society.
R. A. Kerr, Pres.....Peoria
F. K. Sidley, Secy.....Peoria

Perry County.
W. L. McCandless, Pres.....Pinckneyville
J. W. Smith, Secy.....Pinckneyville

Platt County.
W. F. Matson, Pres.....Monticello
B. L. Barker, Secy.....White Heath

Pike County.
J. D. McKinney, Pres.....Barry
R. H. Main, Secy.....Barry

Pope County.
Jas. Dixon, Pres.....Hartsville
W. A. Sim, Secy.....Golconda

Pulaski County.
Monroe, Doty, Pres.....Grand Chain
A. W. Tarr, Secy.....Grand Chain

Putnam County.
G. A. McCormick, Pres.....Hennepin
R. G. Dakine, Secy.....Magnolia

Randolph County.
C. G. Smith, Pres.....Red Bud
A. D. Steele, Secy.....Chester

Richland County.
H. T. Watkins, Pres.....Olney
E. H. Horner, Secy.....Olney

Rock Island County.
F. H. Gardner, Pres.....Moline
Ralph Dart, Secy.....Moline

St. Clair County.
Hugo Wangelin, Pres.....Belleville
J. W. Twitchell, Secy.....Belleville

Saline County.
J. R. Baker, Secy.....Harrisburg

Sangamon County.
R. D. Barry, Pres.....Springfield
E. R. Spicer, Secy.....Springfield

Schuyler County.
A. W. Ball, Pres.....Rushville
W. F. Harvey, Secy.....Rushville

Scott County.
J. W. Weis, Pres.....Manchester
J. P. Campbell, Secy.....Winchester

Shelby County.
C. L. Smith, Secy.....Shelbyville

Stark County.
W. T. Hall, Pres.....Toulon
Arthur Parsons, Secy.....Toulon

Stephenson County.
R. J. Burns, Pres.....Freeport
R. F. Snyder, Secy.....Freeport

Tazewell County.
E. F. Kelchner, Pres.....Delavan
C. G. Muehlmann, Secy.....Pekin

Union County.
S. C. Martin, Pres.....Anna
H. J. Lyerly, Secy.....Jonesboro

Vermilion County.
T. E. Walton, Pres.....Danville
E. E. Clark, Secy.....Danville

Wabash County.
R. J. McMurray, Pres.....Linn
G. C. Kingsbury, Secy.....Mt. Carmel

Warren County.
E. C. Linn, Pres.....Monmouth
A. G. Patton, Secy.....Monmouth

Washington County.
J. J. Troutt, Pres.....Nashville
D. S. Neer, Secy.....Beaucoup

Wayne County.
W. M. Johnson, Pres.....Johnsonville
J. P. Walters, Secy.....Fairfield

Whiteside County.
F. Anthony, Pres.....Sterling
C. M. Frye, Secy.....Rock Falls

White County.
M. J. Hopkins, Pres.....Burnt Prairie
F. C. Sibley, Secy.....Carmi

Will County.
Alfred Nash, Pres.....Joliet
M. K. Bowles, Secy.....Joliet

Williamson County.
A. M. Edwards, Pres.....Marion
D. D. Hartwell, Secy.....Marion

Winnebago County.
T. H. Culhane, Pres.....Rockford.
W. E. Park, Secy.....Rockford

Woodford County.
R. E. Gordon, Pres.....El Paso
Jos. I. Knoblauch, Secy.....Metamora